*Vol. XI. No. 3* THE 1934 RECORD BREAKING SEASON. *January, 1935*

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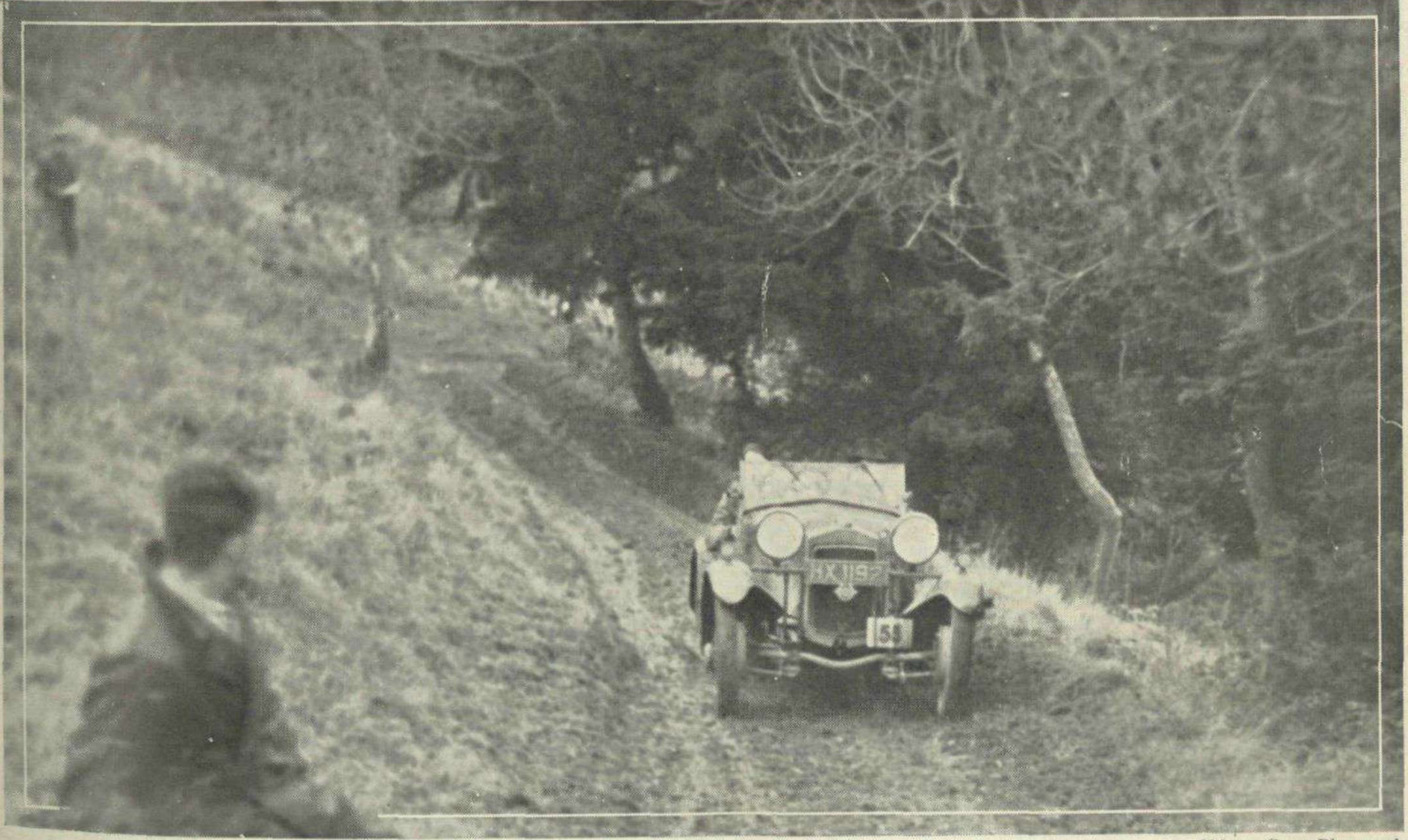

[*Motor Sport Photograph.*

THE TRIALS SEASON. *Our picture shows a competitor on Juniper Hill, one of the stiffest obstacles in the "Gloucester."*

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*D. H. Murray takes his Frazer Nash round the loose surfaced corner at the foot of Midmere. He won the Veteran's Cup.*

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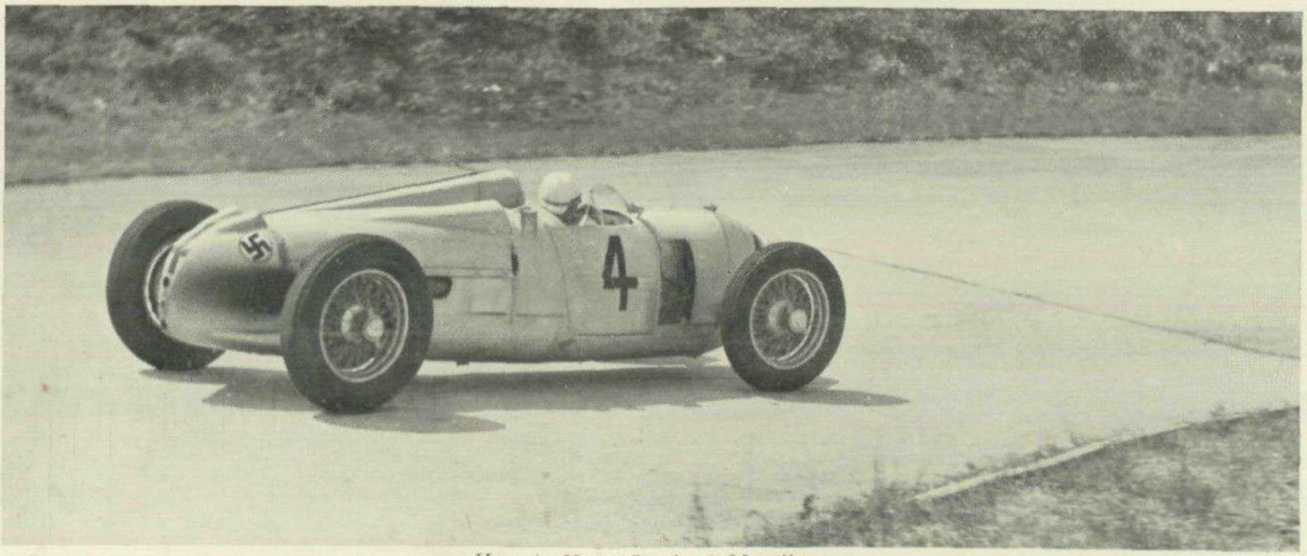

*Here is Hans Stuck at Montlhery.*

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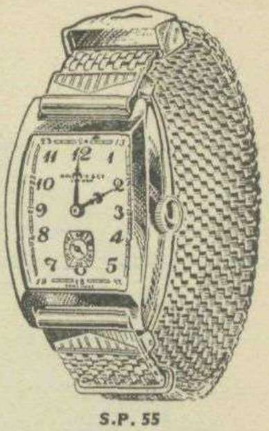

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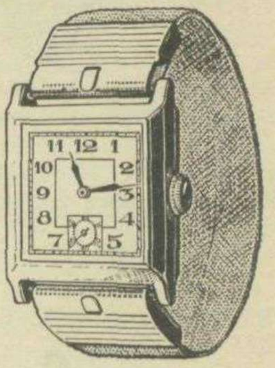

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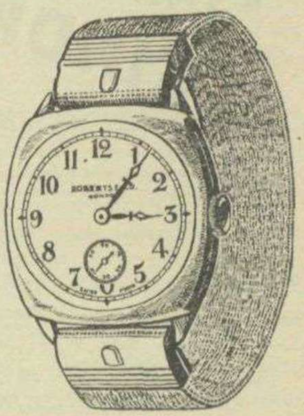

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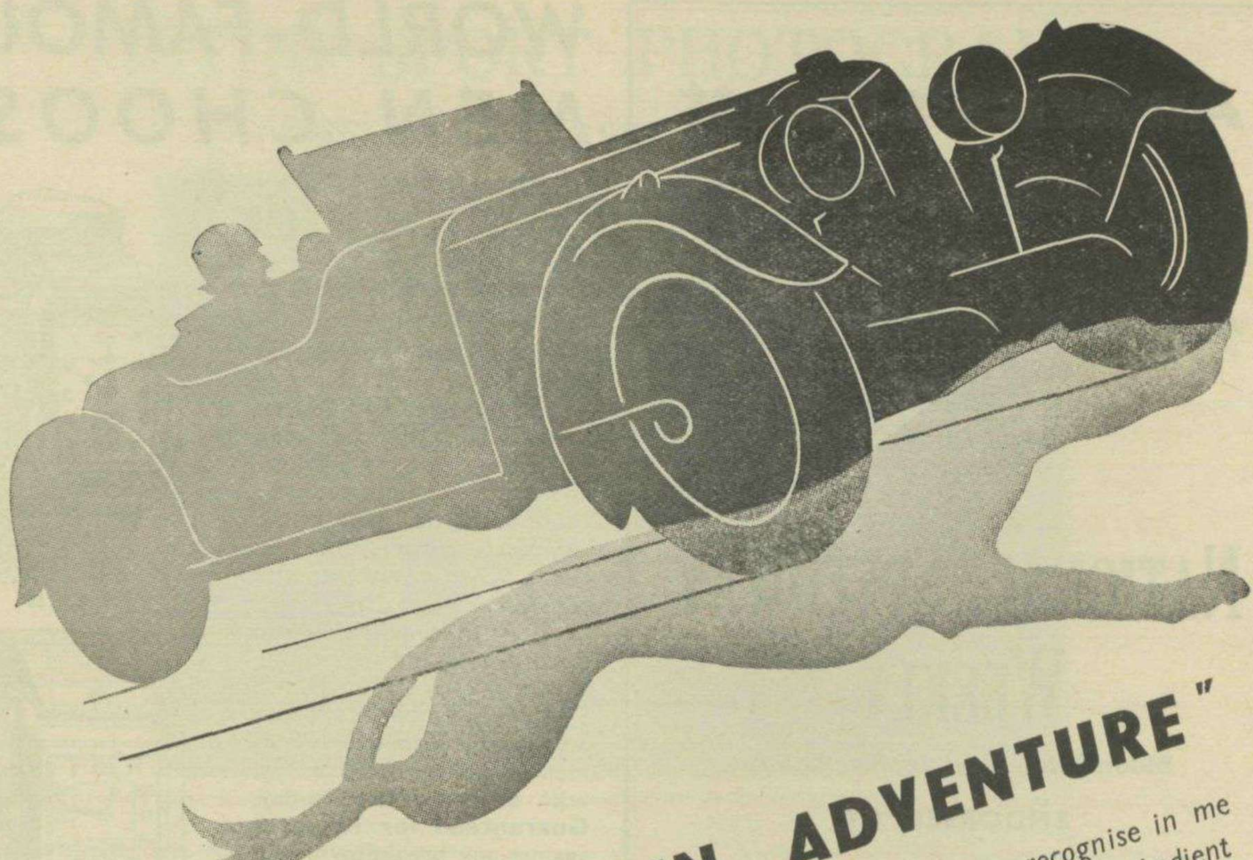

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# LOOKING FORWARD

WITH the New Year the thoughts of all motor-racing followers are turned to the coming season. Right up to the Christmas holidays our talk has been of the races of 1934, living them over again and holding the usual "post-mortems." But now, from being a recent memory they have become a matter of history.

It is going to be a magnificent year. With official teams of Auto-Union, Mércêdes-Benz, Bugatti, Alfa-Romeo (Ferrari) and Maserati (Subalpina), there will be no lack of entries. In addition, there is a possibility of another French make, while a few hardy *independents* will no doubt face the mighty storm of "works" opposition. There are still persistent rumours of English representation in the big races by a famous factory, but at any rate the M.G. and E.R.A. will defend our colours most worthily in those events which include a 1,500 c.c. or 1,100 c.c. class.

With their more frequent opportunities for indulging in the sport, the Continental drivers will still fill all the places in a list of the "best dozen." On the other hand, at least four of our men will be getting their hand in with modern cars, to wit, Earl Howe, the Hon. Brian Lewis, A. H. L. Eccles and C. E. C. Martin and their 185 m.p.h. Bugattis.

Looking ahead, seasons ahead, two significant factors emerge from the foregoing. The present formula under which Grand Prix races are held will be in operation until the end of 1936. There is very little dount that the new formula will demand engines of greatly reduced capacity, probably not more than 2 litres, and possibly 1½ litres. Until that time, then, the British manufacturers, M.G. and E.R.A., will have intensive training and experience with which to perfect their present cars. Our drivers, too, will have become thoroughly acquainted with their mounts, the four 1935 Bugatti drivers having become accustomed to road racing at really high speed.

Reverting to the cars, it will be interesting to see whether the practice of using independent springing will spread to small racing cars. In theory, at any rate, the inherent advantages of the system could be just as beneficial on a small as on a large car, and in actual touring practise it has been applied most successfully to such cars as the 1,200 c.c. Lancia "Augusta" and the 1,500 c.c. B.M.W.

It is not in only in exceptional cornering qualities that independent springing is so infinitely superior to the orthodox systems of suspension—although this alone can make a tremendous difference to lap-times on a give-and-take circuit. It is also in acceleration, and by acceleration we imply absence of wheel-spin. The phenomenal records over a standing-start kilometre made by the German cars are proof of that.

Given the same advantages in the way of wheel grip, then, the competition between our cars and those of the Continent would be an extremely open one. Reduced to terms of obtaining the maximum amount of power from an engine of a limited size, the odds would be slightly in our favour. In the M.G. Midget and the M.G. Magnette we have the most highly developed engines of their size in the world. The E.R.A.'s have yet to be fully tested in the racing field, but in acceleration they are definitely superior to anything yet seen for their respective sizes.

Summing up, while regretting the lack of British participation in Grand Prix races run under the present formula, we look forward to the day when British genius, as exemplified by its manifestations in the small car classes to-day, will reap its merited reward.

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# A REALLY DIFFICULT "GLOSTER"

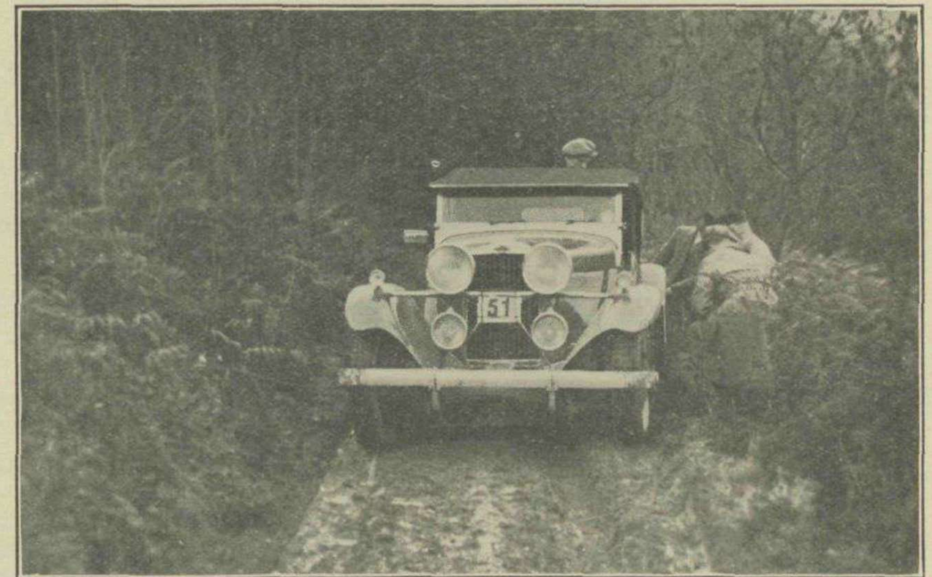
## THE 14 OBSERVED HILLS CAUSE ENDLESS DELAY. THE TRIAL FINISHES 5 HOURS LATE. MUTTON, OLD HOLLOW, JUNIPER AND NAILSWORTH LADDER ALL TAKE A HEAVY TOLL. TRICKY CONDITIONS AT THE SPECIAL TESTS ON BISMORE, OLD HOLLOW AND FERRIS COURT.

THE planning of a good trial is no easy matter nowadays. If the weather is fine, and the hills correspondingly dry, the whole thing can easily become a " walk-over " for modern sports cars equipped with competition tyres. The two ways of remedying this are by having special tests, and by increasing the number of hills. But the latter method can wreck the best-laid organisation should heavy rain fall, reducing time-schedules to a farce.

This is what happened in the London to Gloucester Trial last month. C. F. Dobson, of the N.W. London M.C., had planned a really good course, with three observed hills during the night section and eleven more the next day. In addition there were four special tests, and the whole route was 211 miles in length. But we have not mentioned the rain, which assisted Dobson to a most powerful degree, some of the hills being so bad that the long trail of cars fell more and more behind their time schedule until the last man was no less than five hours late in arriving at the finish.

Rain was coming down in bucketfuls at Staines, where the competitors assembled at the Bridge House Hotel, the starting point. Bearing in mind that the weather during the preceding week had been far from good, seasoned competitors anticipated the ordeal before them with distinct misgivings. Out of an entry of 172 cars, all but 10 turned up on the night of December 8th. Of these, 72 were members of the promoting club—a good figure—and the rest came from the invited clubs: M.G., Singer, Sunbac, Cambridge University, Light Car, W.A.S.A., and Brighton and Hove Clubs.

Maiden's Grove, as usual, was the first hill to be climbed, and in spite of the rainy conditions this once-difficult gradient did not cause a great deal of trouble.



*One of several causes of delay on Juniper. W. G. Lockhart gets his back wheel over the edge and digs a nice little pit. It took a small army to remove him from the " fairway."*

It was here that the Evans trio met with disaster with their new team of " N " Magnettes, for Doreen's car was boiling badly and refused to climb. Investigation in rain and darkness revealed electrical trouble, so Denis and Kenneth towed the car to Oxford, regretfully abandoning the trial.

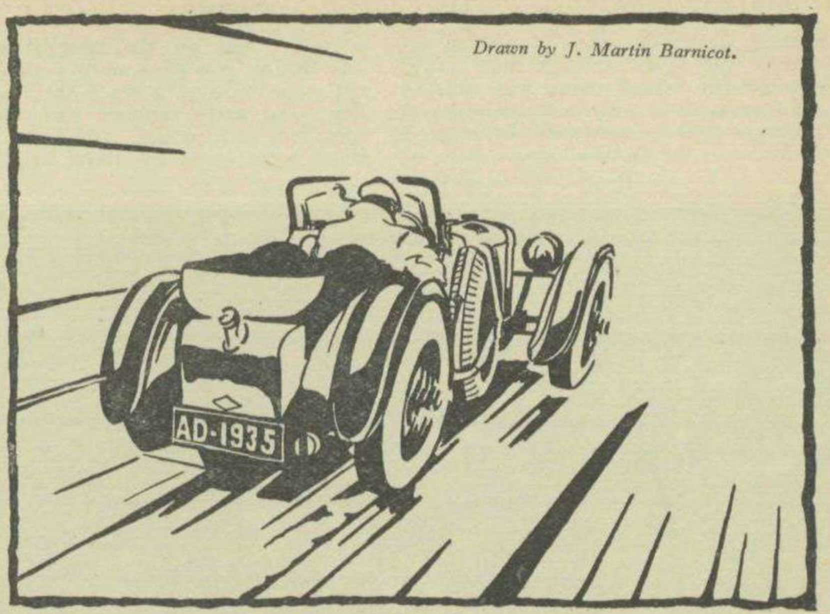
*G. W. Olive (Standard) was one of many to need assistance on Nailsworth Ladder, where all failures were quickly removed.*

Rain, nothing but rain, made the halt for coffee at Chipping Norton more than usually welcome for those with open cars. Hardy Laird and his wife in the very-open McEvoy Special were having a far from gay time, but took it all as part of the day's, or rather night's, work. Then came Old Stanway, where a restart test involving acceleration for 20 yards in a minimum time of 8 seconds was held. The dark and desolate scene was illuminated by the glare of several headlamps mounted on posts, and the marshals dealt with the big field with commendable expedition. The gradient was not steep enough to stop many people, but S.S. were marked as failures. Henry Laird, just to show how little he cared for the rain, shot away like a rocket and was quite the quickest of all. One more hill had to be faced before the breakfast stop at Cheltenham, viz., Kineton, but no one had much difficulty in getting up. The only other incident of the night run was the long battle against loss of water waged by R. C. Morris (Alvis) whose lament might very well have been—" water, water everywhere, and never a drop for the car."

The hearty breakfast provided by the Plough Hotel, Cheltenham, put new life into everyone, and spirits soared even higher when it was seen that the rain had actually ceased.

And so to Bismore, for a special test which put an immediate end to the hopes of many as far as premier awards were concerned. The surface was sticky, and the cars had to accelerate to a point half-way up the hill and stop between two lines. Then, without any signal, they had to restart and continue non-stop to the top. The timed section came to an end when Lord de Clifford dropped his flag just before the left-hand bend. As was to occur throughout the trial, the early numbers had the best of the surface, and soon a nasty pit developed on the right of the restarting point, into which many a back wheel slipped and spun wildly. Actually 30 cars could not restart and had to be pushed, while

# They All Agree!



*Drawn by J. Martin Barnicot.*

Question our owners ; watch their achievements at Brooklands, in hill-climbs, speed trials, and the Alpine Trial ; note our claims in any Frazer Nash advertisement and then, having these in mind, read " The Autocar " road-test of the Frazer Nash. There is a striking similarity which cannot fail to convince you that Frazer Nash cars are built to give the same high performance and that they must, of necessity, conform to an exceptionally high standard of production.

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**THE ACTUAL CAR WAS LOANED FOR TEST BY A PRIVATE OWNER,** and enquiries would probably justify the assumption that the Frazer Nash is the only privately owned car to figure in these tests.

" Whichever Frazer Nash model one may take, the ' feel ' is similar as regards rock-steadiness on the road, extraordinary cornering capabilities and instant response to all the controls.

" It is doubtful if a safer car exists as regards control and stability. The 300-mile test was made chiefly in the wet, but one has complete confidence in the car under such conditions. The average possible over short distances, as well as on a long, naturally fast journey, is amazing. A faster point-to-point car would be difficult to find.

" . . . One of the firmest principles of Frazer Nash practice is to employ high gear ratios. On these, first (**11.6**) gives a very useful maximum of **35 m.p.h.,** second (**7 to 1**) at least **60 m.p.h.,** as much as **65** if one cares to rev. the very willing engine still further . . . On Brooklands the limit speedometer reading on top (**3.8**) with the wind-screen lowered, was **87,** on third gear (**4.8**) a reading of **89** was attained . . . . . The timed speed (**84.50 m.p.h.**) is a mean of several runs ; the best of them, with the main screen lowered and two people on board was at **86.53 m.p.h.** It should be mentioned that the full Brooklands lap was not available. Had it been the car would almost certainly have worked up to a greater speed on the high top gear.

" A full and very satisfactory **70 m.p.h.** is held at a little over **3,000 r.p.m.** on the **3.8 to 1** gear . . . yet the engine can be taken up to well over 5,000, as was frequently done during the tests at the Track, so clearly there is a considerable margin of safety.

" The brakes are pre-eminently of the type that can be put on hard, irrespective of whether the road is wet or dry."

*Extracts from " The Autocar " Road Test of the 1,657 c.c. six-cylinder Sports tourer 3/4 seater Frazer Nash. December 14th, 1934.*

## FRAZER • NASH • CARS

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*A REALLY DIFFICULT "GLOUCESTER"—continued.*

25 more were inaccurate in pulling up between the lines and getting away. Probably the fastest climb was that of J. H. Summerfield, with his supercharged "P" type M.G. Midget, while other good performances we noticed were those of Mrs. Needham (Ford V8), H. B. Shaw (M.G. Magnette), H. Laird (McEvoy Special) and several other M.G., Singer and Ford drivers.

*Iles Lane was easy this year. Here is N. H. Cole (M.G.) toying with the gradient, while the horse-team stand by.*

Hutton came next, and those who remembered the hill from 1932 were quite aware of what they were in for. A queue quickly formed at the foot of the hill while failures were slowly removed. In all 70 people stopped, mostly through being unable to gain enough speed to climb the gradient immediately following the right-hand corner. The later numbers were still further troubled by deep ruts on the corner itself, which reduced their speed and left them in an unprepared state to tackle a really steep ascent. Too much speed, however, only resulted in striking the wall, which was accomplished by R. G. Percival (Ford V8) and J. F. Orgee (M.G. Midget). It was difficult to single out individual climbs for mention, but Laird (McEvoy Special), J. A. M. Patrick (Singer), H. M. Avery (Singer), and the rest of the usual Singer representatives, J. D. Barnes, J. R. H. Barker, and A. B. Langley all made fast and confident ascents. As a whole the Singers, Fords and M.G.s were good, and we liked the climbs of Guy Warburton (Vauxhall 30/98) and F. S. Hutchens (Wolseley Hornet).

Quarhouse, hard by, was not difficult and allowed the disjointed field to join up a bit once more. About a round dozen failed, but Ham Hill did better with 33 stoppages. This hill was more to the liking of Frazer Nashes, which were undisturbed by the mud, and roared up in grand style.

The next hill was some distance away, but soon caused congestion and delay. Old Hollow is quite bad enough as an observed hill when wet, but Dobson had decided to stiffen things up by holding a restart test on the steepest section. The trouble was that many people could not even manage to reach the restarting line! An early number was again an enormous advantage, and the fastest times were made by those in the first half of the entry. Quickest of all was Miss P. Goodban, with her Singer, a most creditable show. She handled her car with determined skill. As the day wore on the surface grew steadily worse, until even Ford V8's were finding extreme difficulty in getting away.

*Not even this drastic expedient could enable R. C. Morris (Alvis) to surmount Juniper Hill, which was in difficult mood.*

Terrible tales had been told of Juniper Hill. In a trial a few weeks previously no one had succeeded in getting up. The hill proper was in such a terrible state, however, that the lower by-pass lane was used, a row of arrows and notices giving warning to the competitors not to attempt the deep mud under the trees. But the by-pass was very tricky, and the delay soon mounted up. The first few cars climbed without a failure among them, but then the usual tale of stoppages was told. Starting right by the main road the gradient was sufficient to cut down speed, to say nothing of the mud. Many people set off in fine style, flat out in low gear, but after a while the hill echoed to the unmistakable "sawmill" sound of wheels spinning in the mud.

R. C. Morris placed his passengers on the tail of his Alvis, standing on each side of the chassis frame, but even this did not prevent wheelspin. Then W. G. Lockhart bogged his Talbot "10 s" quite firmly, one wheel slipping down the bank. Concentrated man-power finally removed him. The Fords came up well, C. G. Fitt being among the best. The two "stopping" places on the hill were half-way up, where the gradient stiffened, and right at the very top, within a yard or so of victory. D. P. M. Hall (Frazer-Nash) was caught in this way after going well, but another Nash driven by John Tweedale did not get so far. He came past the point where we were standing driving confidently and with care. A few yards further on, however, the car gave a little sideways hop through meeting a bad camber and in a trice the whole outfit had slipped over the foot-high bank and was turning over. It disappeared from sight, apparently to roll down the hillside to the roadway again, but when we arrived on the scene the car was found to be on "all fours," having made one complete revolution. Tweedale was still in his seat, while his passenger was sitting on the ground caressing a bruised leg. The windscreen, which was fortunately up, had saved the driver, and the aero-screens were not even cracked!

After this the drivers came up with a fixed do-or-die expression on their faces, while the passengers edged away from the drop at their elbows. R. A. Macdermid (M.G.) gave his usual good display, and we noticed that the experienced trial drivers found the hill well within their capabilities. J. W. Bishop (M.G.) made a model climb, without too much throttle; the Morris Minors driven by W. E. C. Greenleaf and T. Wagner made the hill look easy; Mrs. M. Riley (M.G.) just got up, after considerable winding of the steering wheel; F. A. Thatcher was first-class with a very nice "N" type Magnette; H. M. Avery (Singer) was as good as anyone; W. J. Howard (Bayliss-Thomas) roared up; Mrs. Needham held up proceedings for a very long time when her Ford V8 slipped sideways into a gully; and R. E. Sandland (Singer) failed through waving to some friends.

After the check at the White Swan Inn, the competitors drove to the other side of Cheltenham to tackle Mill Lane, near Prestbury. The start of the observed section was placed high up, by the quarry, and altogether 31 people found the narrow lane, with its slippery surface and sharp left-hand corner, too much for them. Lockhart again held up things with his Talbot, which was removed with difficulty.

Ferris Court was then tackled, on the reverse side of the valley to Bismore, and the same officials were on duty. An unusual method of timing was used. The man-with-the-watch stood at the top of Bismore, from where he could see both the foot of Ferris Court and the finishing point on the second hairpin. The hill was in a very different state from last year. This time the loose stuff on the hairpin was thickly coagulated with mud, which slowed the cars tremendously. On the other hand the bend could be approached really fast without the danger, so deceptive last year, of ramming the bank.

Cars with plenty of "pep" could change up into second gear after leaving the starting line, down again for the bend, and up once more on the stretch up to the second bend, which ended the run, but the majority of drivers preferred to stay in low gear the whole way. H. M. Avery was extremely snappy with the gears of his Singer Nine, getting up in magnificent style. F. A. Thatcher essayed the same procedure, but nearly came to a halt on the bend. His Magnette was misfiring slightly, and upset his gear-change. Fastest of all was J. R. H. Baker (Singer), while other good climbs were made by Miss Richardson (Ford 8V), Frazer-Nashes driven by A. S. Whiddington, N. V. Terry, D. H. Murray, D. P. M. Hall, W. J. Green, and R. P. Stewart. Warburton was again quick with his "30/98," and D. M. McGregor made an outstanding climb on an M. G. Magna. Half-way through the trial a stream overflowed at the top of the hill and ran down the whole way, loosening the surface. The last cars, by the way, had to climb in the dark.

Station Lane was easy and did not stop anyone. It is a longish hill, muddy and bumpy, with two bends. Iles Lane has lost its sting. A couple of years ago cars floundered and stuck in all directions, and the horses were in constant demand. But this time a mere six failures were all that could be recorded.

*C. M. McGregor (M.G. Magna) makes light of the sticky Bismore Test.*

Finally, the exhausted competitors arrived at the most difficult hill of the lot, Nailsworth Ladder. The marshals here had the wearisome task of dealing with cars that arrived at widely spaced intervals, and their job lasted until 8 o'clock that night instead of the scheduled 3 o'clock! Fortunately the Ladder has very good facilities for disposing of failures. Those who stop low down can be reversed and sent down again. If they stop higher up, there is plenty of room for an army of pushers to gather round the car, and there is no danger of cars becoming bogged or ditched and consequently blocking the fairway. The surface was in a pretty bad state on December 9th, causing quite a lot of wheelspin. And of course it steadily deteriorated as the day wore on.

There were many good climbs, and special praise must be given to four ladies in Miss Richardson, Miss Goodban, Miss Daniell and Mrs. Riley, for making the best of bad conditions. The Ladder suits V8 Fords, and they all shot up in that characteristically silent fashion. The Singers had a good many successes, as did M.G.s, Singers and Frazer Nashes. Baker and Langley on Singer Sixes were fast, as were Avery and A. B. Langley on Nines. "Captain" Barnes failed, however, owing to a lack of competition tyres, and A. H. Langley was caught in the "wheelspin patch" on his Nine. M. H. Scott (M.G. Magnette) made a good M.G. climb. And so it went on, long after darkness fell, while the "Bear" on Rodborough Common received the finishers with hospitality most welcome after their long and arduous journey.

It was only natural that fatique and the long deluge should give rise to a certain amount of criticism of the trial. But a later view revealed the difficulties with which the organisers had to contend. In their efforts to make the trial a memorable one they planned a rout which, but for the excessive rain of the preceding days, would have been nicely discriminating in its results. Unfortunately, the 1934 "Gloucester" will chiefly be remembered for its delays—and Old Hollow!

## A Motorist's Diary.

A good diary is a useful item in the equipment of motorists who take their motoring seriously. One of the best on the market is the A.A. Motorist's Diary, published by Charles Letts & Co., Diary House, Borough Road, London, S.E. 1. As its name suggests, the contents of this diary are compiled by the Automobile Association, and the information it contains can therefore be depended upon. The Tables for Cost Records, etc., are most comprehensive, and the diary includes many pages of road maps of the British Isles.

## Austin Seven Owners get together.

The Austin Seven will rank in history as a classic car. Ask any owner; he is certain to be enthusiastic. Now these owners, or at least some of them, have combined themselves into a Club, and the first general meeting will be held on January 5th, at 6.30 p.m., at 13A, Exchange Mansions, Muswell Hill, London, N.10.

An Acting Committee has already been formed, composed of Messrs. W. Gallucci, R. Gallucci, and E. Clayton-Smith. Mr. Clayton-Smith is the Acting Secretary, and all enquiries should be sent to him at the above address

## This is final.

After reversing their previous decision as to the winners of the Inter-Varsity Trial, the Stewards of the Meeting have found a fault in the formula, with the result that Oxford have been declared the winners after all! They win by 99 marks to 53. In the words of the C.U.A.C. Secretary: "This is final." But what would happen if some inquisitive person should find another "previously undiscovered" fault in the formula?

# THE FINAL DINNERS

### The Junior Car Club.

THE J.C.C. certainly belied their title on the occasion of their annual gathering, for no fewer than 500 guests were present, and even the galleries of the traditional Club Banqueting Hall at the Park Lane Hotel were occupied. In the absence of Sir Arthur Stanley, Professor A. M. Low presided as Chairman, and after a cheerful dinner in no way married by the Belisha Beacon's which formed part of the decorations on every table, the diners sat back in anticipation of a bright speech by Lieut.-Colonel J. T. C. Moore-Brabazon, M.P., who was proposing the health of the Club.

Lieut.-Colonel Moore-Brabazon did not disappoint his listeners; after reminding them that in the House of Commons the whole body of motorists was a gang of desperate criminals, an assembly such as theirs was regarded almost as a gathering of criminals whose very presence would cause the Management with misgivings to count the spoons, he protested against the misrepresentation of the weekly accident figures, and the hysterical propaganda spread by the Ministry of Transport. The fact that 8,000 people met their ends within their own homes each year might equally well be used by the Ministry of Health as an argument for wholesale desertion of houses in favour of living in tents. He did deplore that the million motorists in this country spoke not with one voice but with two or three, and pleaded for more co-operation between the various motoring interests so that the prosperous and numerous motoring community should receive the fair treatment which had been secured by other and better organised communities, and mentioned the good work which was being done by the Road Federation, with which Lord Howe, whose name was so familiar to his present audience, was closely connected.

After some shrewd remarks about London as an Orange Grove and England as a land of Passovers, the speaker commented favourably on the growth of the J.C.C. Caravan Section and less favourably on the limited accommodation which our modern small cars provide.

Professor A. M. Low who was proposing the toast of the guests confessed that Lieut.-Colonel Moore-Brabazon's speech had covered everything which could be said on the present situation, so he could only thank him and remind his audience of his distinguished racing career at the beginning of the century, which made him doubly welcome, while it was also interesting to know that he held the first Pilot's Certificate issued by the Royal Aero Club. Professor Low also welcomed Mr. A. P. Bradley, Sir Malcolm Campbell, Colonel Lindsay Lloyd and Commander Armstrong of the B.A.C.

After dinner, prizes were awarded to the holders of numbered programmes, one of the most embarrassing being a large glass bowl in which gold-fish were swimming. The floor was then cleared for dancing, with the further attraction of cabaret turns during the course of the evening.

### The Monte Carlo Rally British Competitors' Club.

"The Rally" is a competition which takes a firm hold on those who have once taken part in it, and there was a fine gathering of former and prospective participants at the dinner held at the Park Lane Hotel at the beginning of December.

The toast of the Club was proposed by Major C. Montague Johnstone, who spoke of the improvement of status of the Monte Carlo Rally competitors, who were no longer regarded by the other visitors to Monte Carlo as "loose-living dreadful people," as they were when he started "rallying." He recalled former runs and was glad to see that such stalwarts as Jack Hobbs, Whalley, Symons and Donald Healey were still taking part. They were gathered there partly to do honour to Colonel Lindsey Lloyd, who had rendered the British Competitors and the Club such service as R.A.C. Delegate to the Rally, and who had now accepted the Presidency of the Club in succession to Lord de Clifford.

Colonel Lloyd in reply, regretted very much Major Montague Johnson was this year not a competitor and wished him luck in his venture of camel riding across Africa. He was very sensible of the honour that had been paid him in electing him President, and liked to think of this appointment as showing the close co-operation between the M.C.C.B.C.C. and the Royal Automobile Club. He had for many years been connected for Brooklands, that testing ground of British cars, and was now happy to be associated with the Rally, which taught English manufacturers equally important data as to the behaviour of their finished products.

H. B. Brown, who still continues his unremitting work as Hon. Secretary, recalled the President's early acquaintance with driving on ice-bound roads, when he accomplished the run from Wolverhampton to Coventry in 2½ hours in 1903. He welcomed a party of 12 enthusiastic members from Glasgow, and mentioned with gratitude the fine reception accorded to Rally Competitors passing through that city.

Speech-making over, the diners adjourned for dancing and reminiscence, the only regret of those present being the early closing of proceedings at an early hour on Sunday morning.

### The Bugatti Owners' Club.

Mr. Eric Giles, the Secretary of the Club is to be congratulated on his enterprise in choosing Claridges' Hotel as the venue for the Annual Dinner. Some 150 members attended, and a particularly welcome visitor was Monsieur Jean Bugatti, son of the famous constructor, who had paid a flying visit to England to meet once again the enthusiasts who had gathered on this occasion.

Speeches were brief and to the point. Lord Howe the President of the Club, read a telegram from Monsieur Ettore regretting not being able to be present owing to business engagements, and then went on to say how encouraging was the growth of the Club, the first as far as he recollected of the "one-make" clubs in this country. There was no finer way of learning about a motor car than to own a Bugatti, and the large gathering of enthusiasts there that night was a tribute to the charm of driving and the satisfaction of owning these thoroughbred motor cars.

Jean Bugatti in reply, recorded how much his father, and he, appreciated the keenness of their private owners in England, and his pleasure to be once more present at the Club Dinner. After Colonel Giles had thanked Lord Howe for his active participation and help in the progress of the Club, Monsieur Bugatti distributed the numerous prizes. Alan Bainton who runs a 2.3 litre car secured the lion's share, while Colonel Giles, and L. G. Bachelier, who secured the Victor Ludorum Cup by winning it three years in succession, were not far behind. A Cup to replace it, it was announced, had been presented by Monsieur Bugatti, and would be competed for under the same conditions during the 1935 season.

Dancing followed the dinner, and proceedings were further enlivened by a quite uncanny conjurer and Ronald Frankau the entertainer, whose songs and stories retained their customary piquancy. Altogether a most enjoyable evening.

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*FORTY YEARS—continued from page 122*

do. I will content myself, therefore, with touching on just one or two salient features of the Auto-Union. Its engine, at the end of the season, was a 4½-litre, and developed 300 h.p. at 6,000 r.p.m. Nothing very remarkable in that—it would be possible to-day to get this power out of an engine of half the size, and there are plenty of engines about which will exceed 6,000 r.p.m. It is true the Auto-Union motor had 16 cylinders, but this was because its shape thus suited streamlining more than for any search after engine efficiency; and it was so beautifully streamlined that the engine had even been ousted from where Levassor put it—at the front of the car—in order to fit in with the scheme. Partly as a result of this the cars were tremendously fast—they regularly attained 180 m.p.h. in road races, and their total weight was under 750 kilos! The design, even more than a triumph of streamlining, was a triumph of road-holding. In order to attain this the designer had had to discard the form of suspension used since Levassor's day, and spring each wheel separately.

It was as big a revolution as electric ignition, front wheel brakes, or the superchargers. Only a year or two ago I was of the opinion that racing car design was standing still; 1934 has at least shown me that I was wrong.

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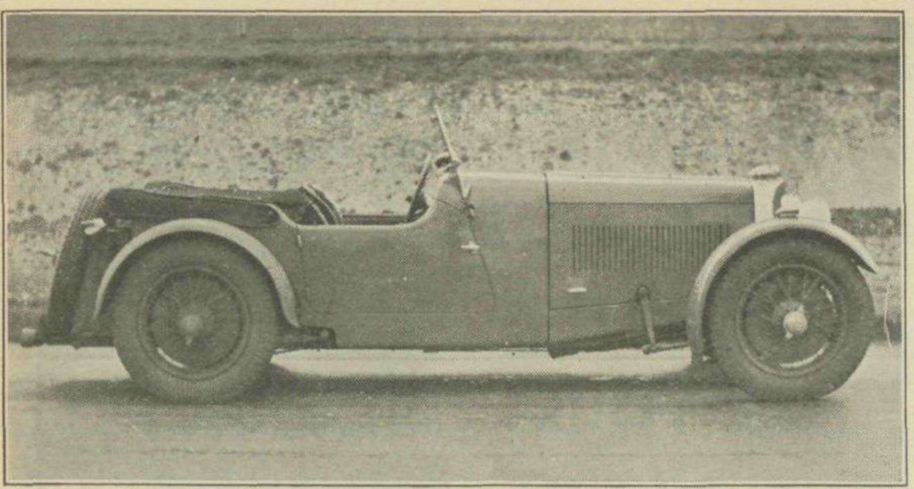


*The 2-4-seater body on the Aston-Martin is neat and practical in outline. The mudguards extend well round the back and front wheels.*

# THE MARK II ASTON-MARTIN

## A FAST SPORTS CAR WHICH INSPIRES CONFIDENCE.

ROME was not built in a day, we understand, and the thoroughbred attributes of the latest Aston-Martin are likewise the result of consistent improvement on a sound foundation. For the past five years the cars have embodied a highly-efficient overhead camshaft engine, and the dry-sump system of lubrication, while the low-hung chassis passing under the rear axle has been a feature of the design for an equally long period. Regular participation in strenuous competitions, such as the 24-Hour Race at Le Mans, has each year given Mr. Bertelli invaluable technical data, and whenever a new model appears, one may be sure that it will include subtle alterations which make for better motoring.

Small but important changes have been made on the new Mark II series. A new type of cylinder-head is now used, and brings with it a further increase of horse-power, notably at the upper end of the range; the fact that it is a four-cylinder already implies a good output at low speeds. The crank-shaft is fully balanced, and the full range of revs can be used without stressing the bearings, so that in point of the smoothness this four-cylinder power-unit compares favourably with many "sixes." A slight alteration to the chassis has been made, an extending of the top webs where the front cross-member connects the side members has greatly increased the chassis rigidity at this point, and in conjunction with transversely mounted shock-absorbers makes a surprising difference to the road-holding on bumpy corners. It is the attention to small matters such as these which makes the Aston-Martin such an eminently satisfying vehicle and one which has a real fascination for the experienced driver.

*Brief Specification.*

*Engine:* 4 *cylinders, bore* 69 *mm., stroke* 99 *mm., capacity* 1,495 *cc. R.A.C. rating* 11.9 *h.p. Chain-driven overhead camshaft. Magneto ignition. Two S.U. carburettors.*

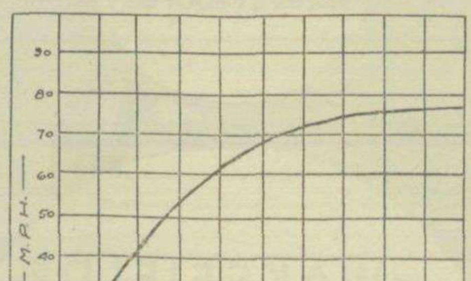
*Gearbox:* 4 *speeds and reverse. Remote control central lever. Ratios* 4.66, 5.91, 8.1, *and* 12.96 *to* 1.

*Suspension: Half-elliptic.*

*Dimensions: Wheelbase* 8 *ft.* 7 *in. Track* 4 *ft.* 4 *in. Weight with* 2/4 *seater open body* 19 *cwt.*

*Price:* £535.

Extraordinary patches of local fog prevailed on the day we took over the car, and we arrived at Brooklands after a series of second gear crawls through the thick sectors alternating with sprightly bursts of speeds in places where visibility was normal. Conditions at the Track were more favourable, but what with the "breakers" and various cars engaged in evolutions on the Railway Straight it was impossible to discover the Aston's all-out speed. However, from a standing start on the Railway Straight the 80 m.p.h. mark was reached by the end of the Byfleet Banking, so one is safe at putting the maximum at about 85 m.p.h. The speedometer was 2 m.p.h. slow at 60 and fractionally so at 75, which is rather unusual, while the acceleration figures showed a material improvement at the upper end of the range over those put up by the forerunner of the Mark II.



*The Acceleration Chart of the Mark II Aston-Martin.*

Business matters compelled us to return to London, and gave a chance of trying the car in traffic. With the ignition half-retarded, an easy matter with the extended ignition control, the car ran smoothly down to 15 m.p.h. or less, on top gear. The exhaust note is a pleasant one and the gears can be used freely if required, while even in thick traffic there was no fear of oiling up the plugs.

Next morning the engine started easily, thanks to a Ki-gass primer, and we were soon on the way to the country. On a quite crowded by-pass road the car gathers speed in a most deceptive way, and the driver finds himself humming along at 65 m.p.h. quite without realising it. This speed we found to be the normal fast touring gait, since the engine runs inaudibly and almost forgotten, while the suspension and roadholding allows one to corner on fast bends without reduction in speed even with a full petrol tank. Top gear serves for a wide range of conditions, with the high third speed available for shooting up steep main road hills or negotiating the more winding roads.

Gaining at last the "great open spaces," we decided to forget for a time our ideal of fast cruising and really give the car its head, secure in the knowledge that over two gallons of cool lubrication oil was circulating through the bearings. We explored fairly thoroughly the various straight stretches of Salisbury Plain and found that at 75 m.p.h. the car still gave no impression of speed. The maximum with the windscreen up is in the neighbourhood of 80 m.p.h., but on many occasions down the long slopes we passed the 90 mark without feeling that the car was being over-worked. Rain began to fall towards the end of our run, but we found that as long as the car was moving the windscreen deflected the drops over our head. The hood was easily erected and gave good protection and plenty of head-room.

The stability of the car was in no way affected by the wet roads, and the cycle-type mudguards, which move with the wheels, were fully up to their work, and are firmly supported by stays fixed on to the back plates of the brakes. The brakes themselves behaved rather strangely, for at the commencement of our run when the sun was shining they were amply powerful and all four wheels could be locked if one exerted sufficient strength, yet when damp conditions set in this was no longer possible and from 40 m.p.h. 75 ft. was required to bring the car to a standstill. The drums are well protected from the entry of water, and the only explanation we could think of was that the linings absorbed moisture from the air.

The exceptional range of engine speed makes the Aston-Martin almost as fast on winding roads as on straight ones. The engine runs smoothly and quietly up to 5,500 r.p.m., when the road speeds on second and third gears are respectively 53 and 75 m.p.h. At 4,500 r.p.m. on

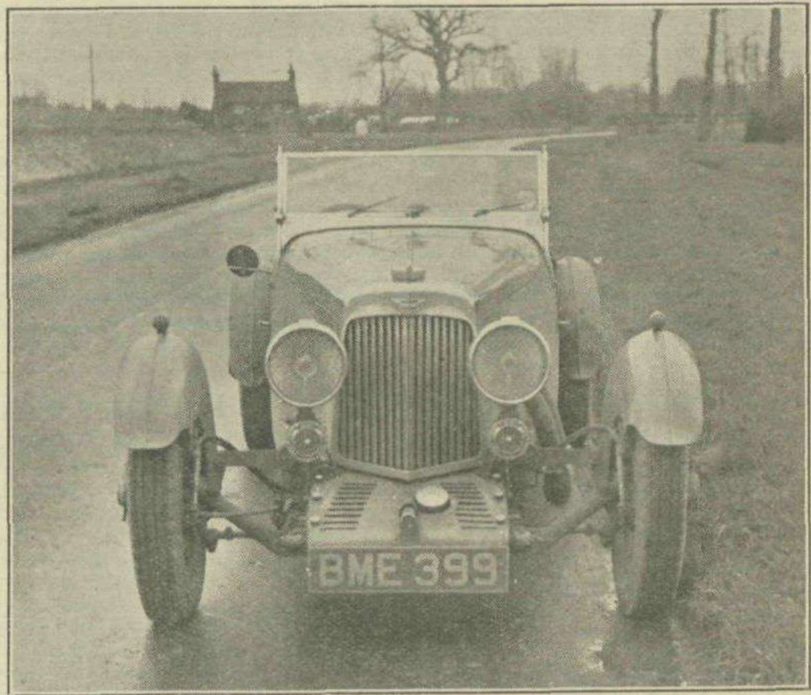
*THE MARK II ASTON-MARTIN—continued.*

third gear a useful 60 m.p.h. is reached, while on top gear at this speed the car is doing about 80 m.p.h. The increased power produced by the new head makes itself felt from about 3,000 r.p.m., and as the normal figure for changing up is around "3, 5," a fine surge of power follows each movement of the lever and road speed is very quickly regained after a check.

Straight pinions are used in the gear-box for all the ratios, and second and third gears are audible but not unpleasantly so. The gear-change is quite simple, but requires a day's practise before one can guarantee a silent change every time. The change-down is remarkably quick, owing to the lively engine, while the upward movement is rather slower, and once these points are grasped, the driver is amply rewarded for his trouble by the finger-light and silent changes which may then be effected.

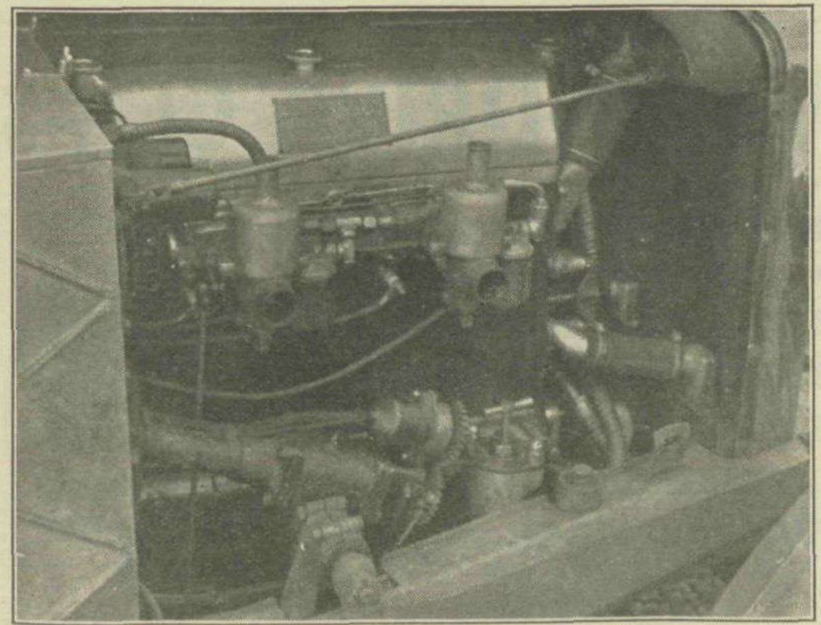
The Aston's effortless attitude to all-out speed is matched by its behaviour on corners. The car can be taken round fast bends or wrenched round tight ones in a way which makes them all seem easy, and no doubt aided by the strengthened chassis and the transversely-mounted shock-absorbers, the front wheels even on loose-surfaced corners take the line desired without any conscious effort on the part of the driver. The steering is light, free from back-lash, and has a good caster-action.

The seating position gives the driver full control over the car and both front wings can be seen, while there is a simple adjustment for altering the rake of the back rest. The windscreen is a large and sensible one, and has side screens which may be used as auxiliary ones when the main one is folded down. An efficient two-blade electric wiper is now used. The pedals and the gear-lever are well placed for easy operation, but the hand-brake, which is on the driver's right is difficult to reach when one is wearing a heavy overcoat. The racing ratchet, operating only when a catch is raised, is a good feature, while those who specialise in racing changes will be glad to know that the pedals are so placed that foot brake and accelerator may be operated simultaneously by swivelling round the right foot.



*Radiator shutters are fitted to the Mark II Aston-Martin. The transversely mounted shock-absorbers and the filler cap of the dry-sump lubrication system will also be noted.*

Turning to the mechanical details, the engine is a four-cylinder overhead-cam-shaft unit, silentbloc mounted at four points. The detachable cylinder head and the block are both of cast iron, and the block is in one with the top half of the crankcase. The compression ratio is 7.5 to 1 and the fuel recommended for fast work is 50 per cent. straight petrol and 50 per cent. benzol. The camshaft is driven at its front end by a roller chain running at half crankshaft speed, and the top chain and its sprocket remain undisturbed when the head is removed for decarbonising. The valves are actuated through rockers which have eccentric fulcrums for clearance adjustment, and each valve has three concentric springs secured by a threaded collar and a hardened lock-nut. Two S.U. carburetters are used, supplied by two S.U. electric pumps from a 13-gallon rear tank, the second pump being brought into action only when the 1½-gallon reserve supply is required. The water pump and the Scintilla magneto are spigot-mounted on the near side of the engine, and the dynamo is driven off the front end of the crankshaft.



*The off-side of the Aston-Martin engine. The exterior oil filter, and the flexible oil pipes are seen on the right, and the accessible quadrant-operated switch at the foot of the steering column.*

Dry-sump lubrication is used with a 2.9-gallon tank mounted between the front dumb-irons. A pressure pump draws oil from the tank and delivers it to the various points via a special pressure filter which can be cleaned by rotating a handle, and from the sump the oil is returned to the tank by a scavenge pump 50 per cent. larger than the pressure one. The oil temperature never rises above 75 degrees, and the use of large diameter flexible pipes provides for an easy passage for cold and thick oil, and avoids the possibility of fracture through road vibration.

Before leaving the engine one must not forget the stiff Nitralloy crankshaft, which is fully balanced and carried in three main bearings, and the aluminium pistons and the duralimin rods, which also have plain bearings. The gear-box is spigot mounted, and has a remote control gear-lever, a single dry-plate clutch is used, an open propeller shaft with two universal joints and a bevel driven back axle.

*THE MARK II ASTON-MARTIN—continued.*

The chassis frame is particularly rigid, with six channel section cross-members, and is upswept over the front axle and passes under the rear axle. Friction shock absorbers are used back and front, those on the front axle being mounted transversely to increase the leverage. The front axle is typical of the fine workmanship which characterises the Aston-Martin chassis, and is of one section between the springs, and tubular at the extremities, where it has to withstand steering and braking reactions. The brakes are 14 inches in diameter, and operated by special cables which remain constant in length irrespective of the axle movement. The cables are lubricated from grouped nipples mounted on the chassis, and are adjusted by large wing nuts at their extremities.

The dash-board equipment is comprehensive, and we liked the large-diameter Smith speedometer and rev-counter. The lights give a field of view sufficient for comfortable driving at 60 m.p.h., and the dip-and switch mechanism is conveniently controlled by a lever in the centre of the steering wheel.

The front seats have pneumatic upholstery, afford good support, and are readily adjustable. The rear compartment is intended primary for luggage, and sufficient for a long tour can be carried comfortably and within the wheel-base, but the seat is fully upholstered and except that leg-room is limited a single passenger may be carried in reasonable comfort. For those who require a bigger car, a full four-seater body is of course now produced on the 10 ft. chassis.

Big-car enthusiasts are apt to think that effortless, fast touring is a quality exclusive to the vehicles of high horse-power rating, but their views will be considerably altered after they have taken the Aston-Martin over a 300-mile journey. The charm of handling of the smaller vehicle is undeniable and this the Aston has preserved, coupled with an all-out speed and cruising speeds admirably suited to English conditions. Anyone who examines the components of engine and chassis cannot fail to be impressed by the quality and workmanship which are brought together in the production of the car, and the confidence of the makers in their product is reflected in the Guarantee, which runs indefinitely as long as the car remains in the same ownership.

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## G. E. T. EYSTON'S PLANS.

There is probably no more ardent record-breaker in the world than G. E. T. Eyston—if we can except " Ab " Jenkins ! Be that as it may, it is the latter's meteoric 24-hour run at close on 130 m.p.h. which has decided Eyston upon a plan which is equalled in magnitude only by Sir Malcolm Campbell's journeys to Daytona and Verneule Pan.

Easton has become famous for his 130 m.p.h. records on the old Panhard et Levassor, but with Montlhéry as his only available track he has naturally reached the limit of speed in relation to tyre wear during long distance record attempts. In addition, the measuring line at Montlhéry is extremely disadvantageous. The records at present held by Jenkins are unassailable, except under similar conditions to those obtaining in Utah, and it is to this far-distant place that Eyston is planning to take a special car next summer.

The design of the car is not yet complete, but it will almost certainly be powered by an ex-aero engine, a system which offers a considerable saving in constructional costs, albeit at the expense of weight. To counteract this, however, it must be remembered that huge engines of this nature revolve at a comparatively slow speed, and are therefore possessed of a high degree of reliability.

The vast plains of the Salt Beds allow a " circuit " of some ten miles or more to be mapped out, and the radius of the turn is thus so gradual that the car is, to all intents and purposes, travelling in a straight line, reducing tyre wear to the absolute minimum compatible with the speed and weight of the car.

Eyston will have a big advantage over Jenkins in the matter of maximum speed. The Pierce-Arrow cannot be capable of much over 140 m.p.h., while Eyston's new car will probably reach 200 m.p.h. allowing a cruising speed well within the scope of the engine.

It is too early as yet to give final details of the adventure, but it is certain that Eyston's faithful henchman (and brilliant driver) Albert Denly will accompany him. Additional drivers have not been decided.

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# Club News

### South Midland Centre A.C.U.

The December number of the "South Midland Review" contains two significant articles on current road legislation. First of all the promised increase in insurance premiums is blamed on to the leniency of juries in awarding damages. In the words of the writer, "As it is realised by all concerned that a company with enormous reserves is to be called upon to pay out, many awards are made with a heavy hand."

In the second article attention is drawn to the ridiculous situation regarding the uncontrolled crossings decorated with Belisha Beacons. Pedestrians are allowed to step off in the path of oncoming vehicles, and on wet roads the danger of skids and pile-ups is considerable. It is pointed out that even on a dry non-skid surface a car takes at least 40 ft. to pull up from a speed of 30 m.p.h.—the limit in built-up areas. To this distance has to be added another 30 ft. to allow the driver to make up his mind.

A thoroughly common-sense little magazine.

### N.W. London M.C.

The opening sentence of the Editorial in the "Gazette" for December contains the words "It is becoming more difficult each year to find hills which can really stop modern cars equipped with the very latest "knobblies." Many competitors in the "Gloucester" will find this modesty on the part of the officials just a little too excessive, bearing in mind their experiences on Juniper, Mutton, Old Hollow and the Ladder!

A full report of the London to Gloucester Trial appears elsewhere in this issue.

### Bugatti Owners Club.

The Fifth Annual Night Trial took place on November 24th, starting at 11 p.m. from Chorley Wood. A compact entry of 20 cars was received from the organising club, and the invited M.G., Frazer Nash and Lagonda Clubs.

The usual route was followed via the Chilterns to the Cotswolds. En route the competitors had to negotiate a timed ascent of once-famous Kop Hill, where A. G. Bainton made fastest time with his Type 43 four-seater Bugatti; another timed ascent, in the case of Cockshutt Hill; an acceleration and brake test, where Bainton again excelled; and two observed hills.

This route was not too difficult, and only two competitors failed to check in at the finishing point, the Abbey Hotel, Malvern. The Team Award went, appropriately enough, to the Bugattist, represented by Col. G. M. Giles (3.3-litre), A. C. Bainton (2.3-litre) and K. W. Bear (3.3-litre).

### Great West M.C.

The results of the Thatcher Trophy Trial, held on November 18th, were as follow:—

**Thatcher Trophy.**—F. G. S. Cook (M.G. Magnette).

**Visitors Cup.**—P. B. Clark (Singer Le Mans).

**Ladies Cup.**—Mrs. Warburg (M.G. Magna).

**Second Class Awards.**—J. H. Hibbitt (M.G. Midget), Q. F. Connell (Singer Le Mans), J. G. C. Bond (Morris Minor), W. E. C. Greenleaf (Morris Minor), C. A. M. May (M.G. Midget), G. N. Watson (M.G. Magna), Mrs. Warburg (M.G. Magna), H. J. Craxford (M.G. Midget).

**Third Class Awards.**—A. G. Wills (Raleigh), C. S. Parrott (Singer), F. G. Stingess (Singer), J. R. Catto (Singer), A. T. K. Debenham (Singer), H. E. Richards (Singer), P. Whitehead (Riley), F. R. G. Spikins (Singer), O. B. Bennett (M.G. Midget), D. A. Murray (Frazer Nash), W. S. Fielding (Singer).

**Team Awards.**—1, N. W. London M.C. (Messrs. Bond, Greenleaf and Wood, all on Morris Minors); 2, Singer No. 1 Team (Messrs. Parrott, Stingers and Catto).

The fastest times recorded in the various special tests were as follow: Maiden's Grove Driving Test, W. R. K. Silcock (Frazer Nash), 30.4 secs.; Sloe Gin Stop and Restart, J. H. Hibbitt (M. G. Midget J2), 13.2 secs; Lewknor Brake Test, N. V. Terry (Frazer Nash), 6 secs.

### The Amateurs' Car Racing Club.

The Secretary wishes to apologise for any delay that has occurred in replying to applicants for details and membership. He has been quite snowed-under with correspondence.

The club has now become established at Carlton House, Lower Regent Street, S.W., telephone Whitehall 2025, to which address all communications should be addressed.

Car and other badges will be available shortly and particulars of same will be circulated.

Motor cycle riders are now admitted to membership in all three grades, a motor cycle section having been approved by the Committee.

A general meeting of members will shortly be called to decide upon a programme for 1935.

### Singer M.C.

The results of the first Annual Sporting Trial arrived too late for inclusion in our last issue, so we give them below. The trial was notable for a difficult driving test at the Singer private track, and for a "real" hill in King John's. The latter was in such dire condition that only two people made clean climbs, Miss Richardson (Ford V8) and Henry Laird (McEvoy Special). The former, by virtue of losing fewer marks in the driving test, won the award for the best performance of the day, a really magnificent effort.

RESULTS.

**Purse of five guineas,** for best performance of the day, and the "**B.K.S.**" **Trophy,** for best performance by a visitor: Miss S. Richardson (Ford V8). **Bullock Trophy,** for best performance by a Singer M.C. member: J. R. H. Baker (1.493 Singer). **Ladies' Trophy,** for best performance by an all-feminine crew: Mrs. M. M. Riley (847 M.G.). **Runner-up Award:** Miss P. Blathwayt (847 M.G.). **Patrick Trophy,** for best performance under 1,100 c.c.: R. Hancock (847 M.G.). **Barnes Trophy,** for best performance over 1,100 c.c.: H. Laird (1,454 McEvoy Hornet). **Team Trophy:** Singer M.C. "A" (Barnes, Baker and Langley).

**First-class Awards.**—A. H. Langley (1,493 Singer), J. A. M. Patrick (1,493 Singer), J. A. Bastock, J. F. Kemp, F. I. Allen, C. A. N. May and G. N. Mansell (all 847 M.G's), J. Priestley (1,458 Riley), H. R. Attwood (1,287 M.G.).

Owing to no clean performance being made, the first-class award standard was reduced to 85 instead of 100 marks.

### Kentish Border C.C.

Held at the end of November, the Club's first big trial turned out to be a well-organised and thoroughly enjoyable event. Fifty-four competitors set out from the Larkfield Road House, near Maidstone, and soon arrived at the restarting test at Hognore, which was fairly difficult. White Horse Hill was climbed successfully by nearly everyone, the star climb being made by W. J. Green (Frazer Nash). After negotiating some slippery grass tracks the competitors arrived at Switchback, where 15 people stopped. Then came an acceleration test on Luva Slope, where Miss Goodban showed her exceptional skill at this sort of thing by clocking 3⅗secs., this fastest time being equalled by Mrs. Goodall.

Something new in special tests was provided by the "Come-Back." This was quite a simple affair, drivers having to accelerate for 25 yards, reverse for 15, and accelerate once more for another 15 yds. The best time here was made by P.B. Clarke (Singer) and G. Alexander (M.G.). There was only one more hill between the competitors and the finish, Buckwell Bank, which gave no trouble at all.

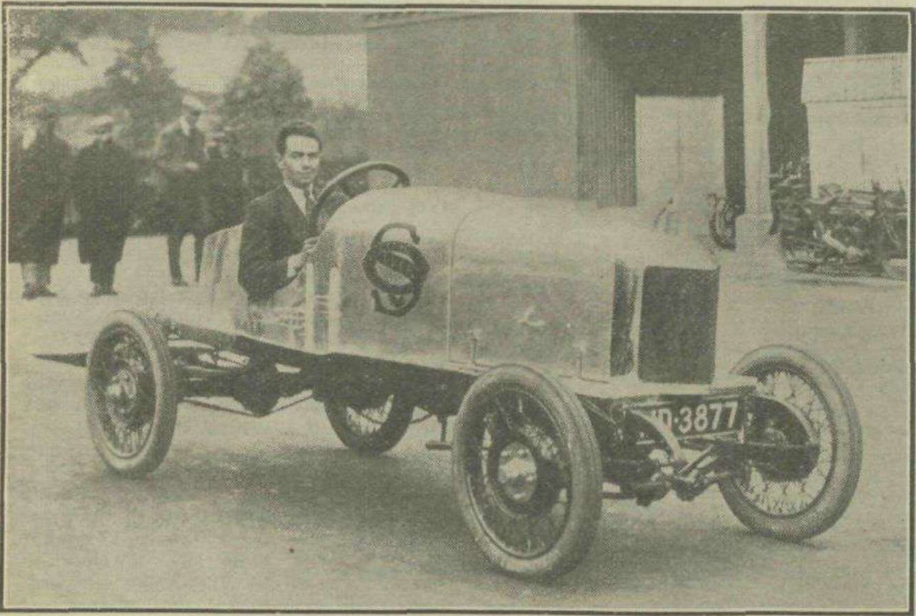
RESULTS.

**Alexander Trophy:** F. W. Redhead (972 Singer). **Visitors' Cup:** Miss Goodban (972 Singer). **Team Award:** Kentish Border No. 2 Team—G. H. Alexander (M.G.), H. B. Shaw (M.G.), K. F. Rowe (M.G.). **First-class Awards:** C. S. Gibbs (972 Singer); H. J. Johnson (972 Singer); S. E. H. Bowyer (847 M.G.); G. H. Alexander (847 M.G.); H. B. Shaw (1,287 M.G.); K. F. Rowe (1,287 M.G.); S. Imhoff (972 Singer): F. E. Elgood (2,996 Bentley).

*The Editor invites Club Secretaries to send details of their fixtures, sporting and social, for publication in these columns. These items should be sent to reach this office not later than the 16th of the month.*

# MOTORING SPORTSMEN

## Mr. RAYMOND MAYS



*Raymond May's first car, a 1½-litre Hillman, which he raced at Brooklands and elsewhere.*

THOUGH by no means a bearded ancient—at the time of writing he is 34—we always think of Raymond Mays as one of the few still-active representatives of an era in motor racing which is already half-forgotten. Those six years of intense activity from 1921 to 1926 were almost unique in England—a natural reaction after the War period—when cars had once more become available to the civilian and the prosperous motor trade was fighting for the patronage of its eager customers. Hill-climbs and speed-trials alternated every week-end throughout the season, and for five months in the year wealthy amateurs and trade drivers formed a " circus " which asked nothing better than to tour the country and to engage in friendly rivalry at the various meetings. All the foremost drivers of the time, such as Campbell and Coe, Seagrave and Humphrey Cook, Captain Frazer Nash and E. R. Hall, met regularly each week-end, and England was for a short period a country for the racing drivers to live in. " Apart from the cheerful band of drivers," said Mays, as we were discussing those days, " one of the things which struck one most was the enthusiasm of the spectators, who were very different from the apathetic crowd which watches nowadays at Brooklands and Donington. Hill Climbs had a special appeal and people would drive miles to see them."

Mays comes of a motoring family, for his father owned the first car in Lincolnshire and drove a Vauxhall before the war in competitions with some success. Schooldays at Oundle and a year in the Grenadier Guards did nothing to check Raymond's enthusiasm for the family sport, and when he went to Cambridge in 1921 he encountered a fellow-enthusiast in Amherst Villiers.

Hillman cars at that time were making a name for themselves in competition and Mays had already met Bedford, the firm's star driver, at his father's house at Bourne, so what better than to acquire a car of the same marque ? It was christened " Quicksilver " in friendly retort to Bedford's " Mercury," and together Mays and Villiers set to work to tune it up, with some expert aid from W. M. Thomas and Kensington Moir, who was at that time with the Zenith Carburetter people.

When the car left the works, its speed on the gears were 40, 62, and 53 m.p.h., which suggested that it was shockingly overgeared, but by the time Mays had finished with it the maximum speed was raised to 88. Its debut was made at the Inter-Varsity Hill Climb at Aston Clinton, where the driver showed his early appreciation of hill-climb strategy by having about 40 helpers to push him off the line. With foot hard down and bumping about in an alarming way, for little was known about shock absorbers in those days, he roared to the top to make fastest time of the day—foot hard down on bottom gear most of the way. At Angel Bank " Quicksilver " proved itself a good second to Bedford's " Mercury," and scored another second at Holme Moss, while Mays celebrated his first encounter with Shelsley by getting a first and a second place in the classes he was entered for.

The Hillman had been tuned to its limit at Shelsley, so Mays decided to try his hand in 1922 with a Brescia Bugatti, a type of car which was performing very successfully at that time in the hands of Cushman and E. R. Hall. Acquiring it at the end of the season, he nevertheless made fastest time at South Harting, beating Frazer Nash's time on Kim II by 10 seconds. The winter was spent in experiment in collaboration with Villiers, who had ideas of his own about pistons and cam-shafts, very sound ones as they turned out, for the engine speed was raised from a maximum of 3,900 r.p.m. to 7,000, while the speed in third went up from 54 to 84 m.p.h !

This Brescia, the famous " Cordon Rouge," was driven in all the principal hill-climbs with conspicuous success, one of the finest performances being at Spread Eagle, where it won all the six sports classes in which it was entered, while a companion car, Cordon Bleu, which was specially built at Molsheim with the same modifications, but with a more substantial crankshaft—did the same thing in the

VAUXHALL VILLIERS
SPECIAL

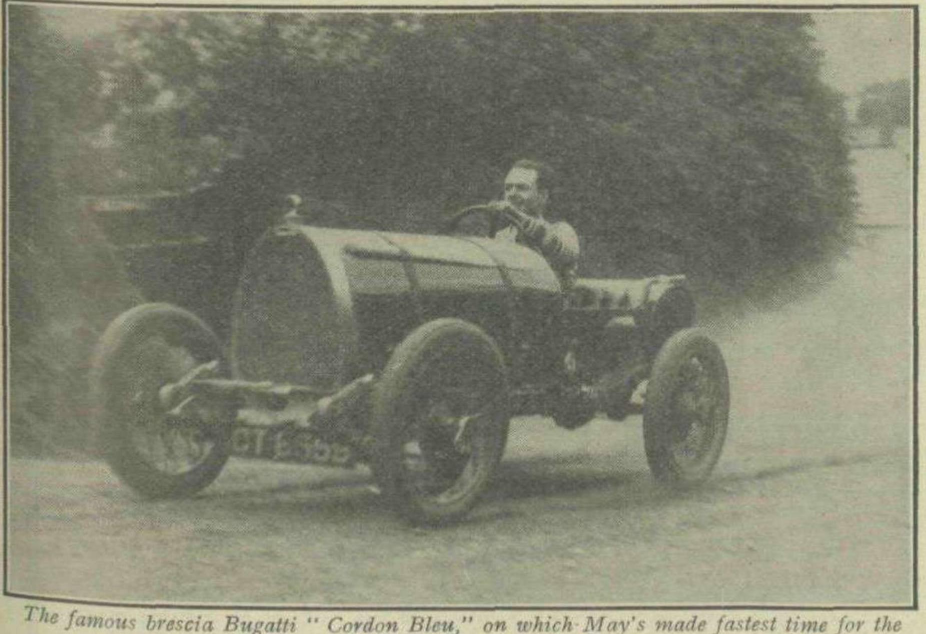
*The Vauxhall Villiers, later the " Villiers Special " winning the Southport 100 miles race in 1928.*

*MOTORING SPORTSMEN—continued.*

racing classes, beating Campbell's Sunbeam by 4 or 5 seconds.

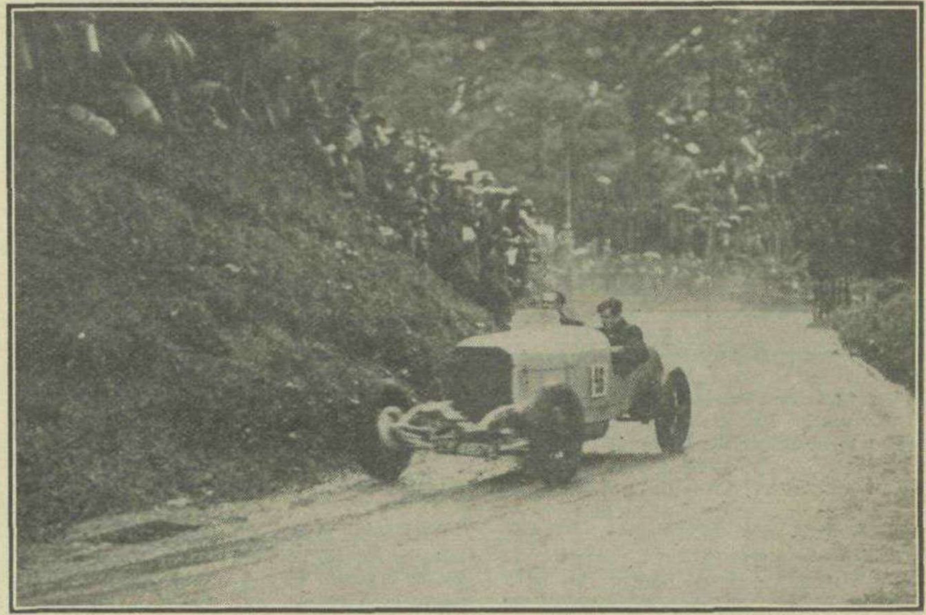
Mays' driving has always been marked by a cool daring which allowed him to save that essential 1/5 second without damage to himself or his car, but he had to do some rapid thinking when the throttle pedal of the Brescia jammed at the top of Holme Moss after another record breaking run that same year, but he was able to bring the little car to rest without mishap by running it up the bank at the side of the road. Another disturbing moment he experienced on the same car happened on one of his runs up Caerphilly Mountain when a road wheel came off on the hairpin and bounded along beside him. The next year on Holme Bank again provided him with some anxious moments, for on the first run his Vauxhall caught fire, and on the second a burst tyre came off on one of the corners. However in those days one entered in every possible class and thus had plenty of runs, so he was able to round off the day by climbing the hill in 75 seconds on his third attempt, beating his own record of the previous year, which he put up on the Bugatti, by over 2 seconds.

"First place and fastest time of the day to Mr. Raymond Mays" became in fact almost a monotonous announcement, and he had no fewer than 250 importants awards during 1921-24 and in 1924 held the records of 11 of the principal hill-climbs including Shelsley. One of his most formidable rivals was J. A. Joyce on the two-litre A.C. and Mays borrowed this on one occasion and broke the Saltersford Hill-Climb record by 8 seconds. In 1925 he bought the A.C., and Villiers fitted it with a supercharger, but its only appearance was at Brooklands, where it covered 20 miles at 116 m.p.h. before blowing up. 1925 was, however, a landmark in his career, for that was the year of the accident at Kop, which caused hill-climbs on public roads to be banned in England; the car which caused the trouble was strangely enough one of his old Brescias, which had passed into other hands.



*The famous brescia Bugatti "Cordon Bleu," on which May's made fastest time for the day at Spread Eagle, in 1924.*

An accident of this sort was almost inevitable with the marshalling arrangements of those days, and Mays described to us vividly his recollections of those hill-climbs of 1924, which took place either on narrow steeply-crowned roads, or on wider ones with a loose gravelly surface. "Spectators used to line the hedges and leaned right out into the narrow roads, so that it was really alarming to take a fast car up between the rows of heads. They withdrew only as the car was almost upon them and shot out again as it went out of sight. Fortunately at Kop that day the climb had been opened by some large car like a Vauxhall, and the crowds had jumped back from the most dangerous spots, otherwise the Bugatti would have killed 40 or 50 instead of inflicting injuries on the few who remained on the edge of the road."



*The 2-litre Mercédès at Shelsley, 1927.*

Shelsley, of course, until 1931 was just as loose as any of the other hills, and clouds of dust made it quite impossible to see the cars once they had gone past where one was standing. That was where the Bugatti scored. "I wish I could manage that perfect get-away on the E.R.A.'s," remarked Mays. "I'm rather sorry that Shelsley has had to be given its present hard surface, but it's inevitable with the present day cars with their high power-weight ratios."

"Holme Moss was my favourite, a wizard climb of 1¼ miles right up into the clouds, with a double corner and a hair-pin on the way up, and the finishing line slightly down-hill over the summit. Caerphilly Mountain was probably the roughest of all, lots of corners and loose all the way. They were all public roads, of course, and on more than one occasion we had to wait while a horse and cart crossed the road."

Shelsley, which is on private property, alone remained after the sad affair of 1925, and in 1926 Mays was second on a T.T. Vauxhall, being beaten by Davenport on the Frazer Nash. The next year he got hold of a supercharged two-litre Mercedes and had a series of successes on it at the various Speed Trials, Blackpool, Colwyn Bay, Southport, and the rest. These wins so impressed the Mercedes people that they sent over one of their famous 8-cylinder 1½-litre cars, and a bunch of German mechanics to look after it. It was tremendously fast for those days, and was timed to lap at 130, doing a steady 7,000 r.p.m. on top gear, but the suspension was quite devoid of "give" and Peter Berthon, who shortly before this had joined Mays, used to come in from an outer circuit race at Brooklands a mass of bruises from head to foot. It was the last car one wanted to drive at Shelsley in the rain, and Mays, in the 1927 climb, was again compelled to yield first place to Davenport.

In 1928 Villiers again joined forces

*MOTORING SPORTSMEN—continued.*

and the Spring was spent in supercharging a T.T. Vauxhall, the one which had formerly belonged to Humphrey Cook, in preparation for Shelsley, where it again ran second to Davenport, but scored a win in the Southport "Hundred," beating Campbell's Delage. Speed trials were by then already in a decline. Next year Shelsley was the only event in which Mays took part. Aided by twin wheels, which he was the first to adopt, he at last achieved his ambition of making the fastest time of the day and bested Davenport with a time of 49⅗ seconds. Another year of work, when the Vauxhall Special became less "Vauxhall" and more "Special," and was fitted with the machine-gun like "intercooler," only to meet with the brand of bad luck which seems to haunt the real Shelsley enthusiast. On the way to Worcester the car was delayed by a tree which had fallen across the road and failed to turn up in time for the meeting!

Undaunted by this misfortune, he carried out further alterations to the car and in the autumn meeting held that year for the first time the rebuilt and renamed "Villiers Special" made fastest time of the day. In July, 1931, Mays repeated this feat and climbing the hill to the accompaniment of that shattering bark which never fails to rouse the spectators; brought down the time for the 1,000 yards of 1 in 8.9 to 45 seconds.

1932 was notable for some fine climbs on a 4½-litre Invicta, with which he raised the sports car record to 45⅗ seconds.

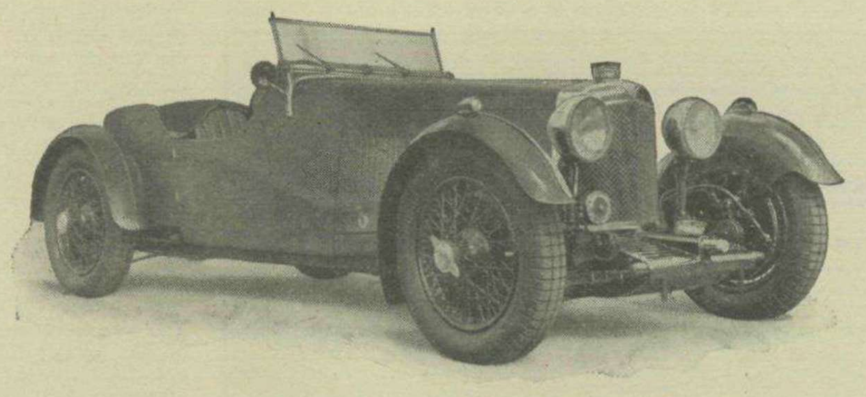
The next year the Villiers, which by this time was developing 170 h.p. at 4,600 r.p.m., was again successful in July, but in October was eclipsed by Straight on the Maserati. More important from the point of view of the British racing motorist was the appearance of the supercharged Riley, with which "Ray" succeeded in beating the three year old record of Stuck on the Austro-Daimler. Readers will not need to be reminded of the performance last October of the E.R.A., which, of course, embodies an engine developed from the Riley and which restored to Mays the cup which he has pursued with such enthusiasm since 1923.

"What are the prospects of beating Whitney Straight's record of 40 seconds," we inquired, and Mays replied that he thought he stood a good chance, as the power-weight ratio of the Maserati and the E.R.A. were similar, and the power developed by the two-litre engine had been considerably boosted since its first appearance at Shelsley in September. "I wish I had independent springing, all the same," he admitted. "I'm sure that Stuck's phenomenal standing-start figures are largely due to the improved adhesion he gets with the separately-sprung back wheels."

"It looks as if we shall be tremendously busy with the new cars next season. As far as we can gather, there are over 20 races in England and the Continent in which a limited class will be run, and the limit has in most cases been fixed at 1,500 c.c., which is the normal capacity of the E.R.A. Peter Berthon and I are going full steam all the time, for in addition to producing the new cars, for which we are extending the works, we have to carry on the wool business, which is in itself a full time job."

The team, as announced in these columns last month will consist of Mays, Rose-Richards and Mathieson, and Seaman is also buying a 1½-litre car, which will be served by the E.R.A. Company, but will not form part of the team. A 1,100 c.c. car is to be supplied to Fairfield, who drove one of Dixon's Rileys on several occasions in 1934, and these drivers and Humphrey Cook will be the only ones to whom E.R.A.'s will be available.

It appears then that the E.R.A.'s, the offspring of the supercharged Riley which Peter Berthon designed and produced in the remarkable short time of three months, should pay a prominent part in European racing during the 1935 season, and one hopes that Mr. Mays will find the time to devote himself to the exacting and difficult sport of road-racing. His hill-climb successes have shown him not lacking in skill and dash, while his only race of any distance last season, the Nuffield Trophy at Donington Park, called for restraint and determination on a difficult course. We may therefore hope to see him figuring with success in the events of the forthcoming season and everyone will hope to see him have a return of the fortune of 1924, when he was almost invincible on our hill-climb course. Immaculate and generally smiling when not borne down by the strain of the coming struggle, Mays's driving methods should be dashing enough to win him the favour of the Continental crowds and, if he has that modicum of good fortune which even the best of drivers cannot afford to despise, he should extend his collection of cups and trophies considerably during the coming season.



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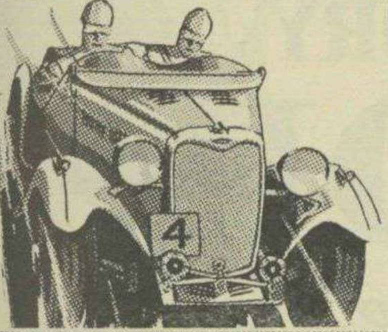
# SINGER



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| | **47** | **SPECIAL** awards, & |
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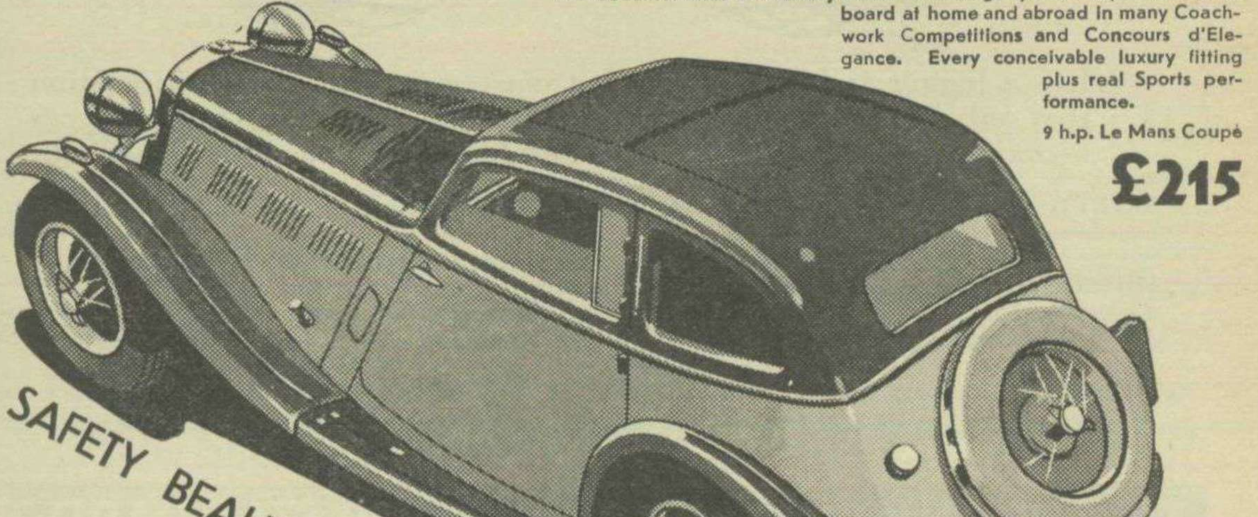

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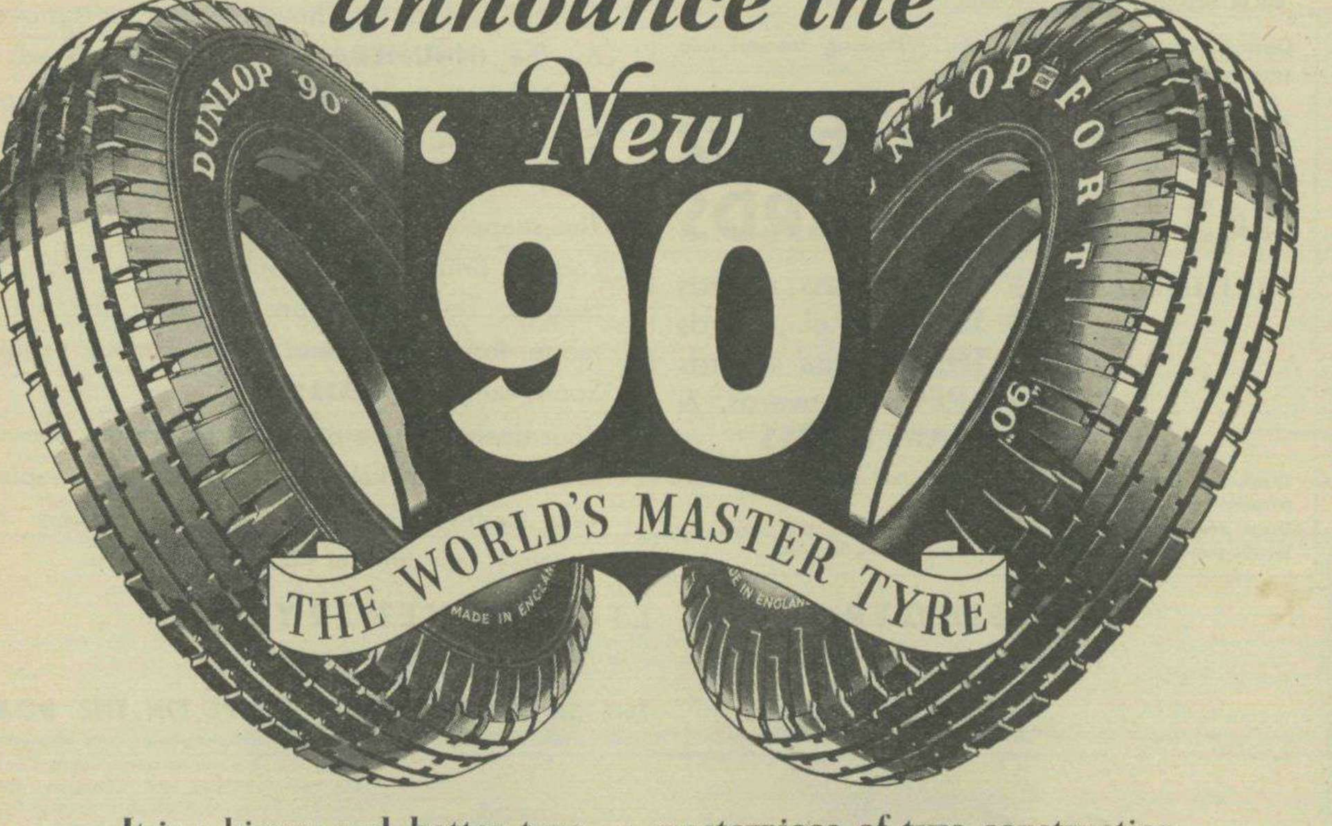

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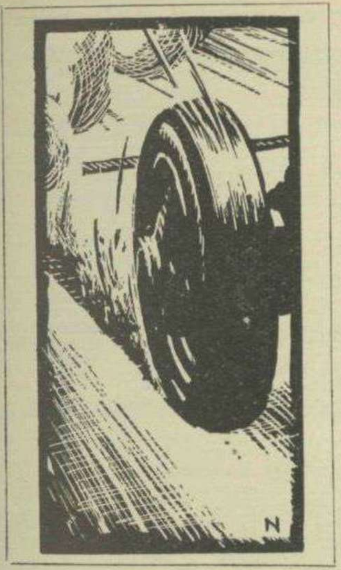


# 1934 RECORDS

## World's and International Class Records to date

### WORLD'S RECORDS.

| Record. | Speed. m.p.h. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 kilometre (s.) | 101.56 | Auto-Union (Stuck) | Avus |
| 1 " (f.) | 272.46 | Campbell Special (Sir M. Campbell) | Daytona |
| 1 mile (s.) | 117.23 | Mercédès-Benz (Caracciola) | Gyon |
| 1 " (f.) | 272.11 | Campbell-Special (Sir M. Campbell) | Daytona |
| 5 kms. (f.) | 257.30 | " " | " |
| 5 miles (f.) | 242.75 | " " | " |
| 10 kms. (s.) | 238.67 | " " | " |
| 10 miles (f.) | 164.08 | "Enterprise" (N. Smith) | 90 Miles Beach |
| 50 kms. (s.) | 150.23 | Auto-Union (Stuck) | Avus |
| 100 " (s.) | 152.17 | " " | " |
| 200 " (s.) | 134.89 | " " | " |
| 500 " (s.) | 132.47 | Jenkin's Special (Jenkins) | Salt Beds |
| 1,000 " (s.) | 132.64 | " " | " |
| 2,000 " (s.) | 129.60 | " " | " |
| 3,000 " (s.) | 128.58 | " " | " |
| 4,000 " (s.) | 128.06 | " " | " |
| 5,000 " (s.) | 127.23 | " " | " |
| 10,000 " (s.) | 104.72 | Delahaye (Perrot, Dhome and Girod) | Montlhéry |
| 15,000 " (s.) | 88.03 | Voisin (Marchand, Morel and Kiriloff) | " |
| 20,000 " (s.) | 85.08 | " | " |
| 25,000 " (s.) | 85.69 | " | " |
| 30,000 " (s.) | 84.37 | Austin Special Yacco (Marchant and Others) | " |
| 35,000 " (s.) | 83.86 | " | " |
| 40,000 " (s.) | 84.13 | " | " |
| 45,000 " (s.) | 77.64 | Citroen (Marchand amd Others) | " |
| 50,000 " (s.) | 77.56 | " " " | " |
| 60-300,000 " (s.) | 75.82-58.08 | " " " | " |
| 50 miles (s.) | 151.55 | Auto-Union (Stuck) | Avus |
| 100 " (s.) | 134.76 | " " | " |
| 200 " (s.) | 132.18 | Jenkins Special (Jenkins) | Salt Beds |
| 500 " (s.) | 132.61 | " " " | " |
| 1,000 " (s.) | 130.91 | " " " | " |
| 2,000 " (s.) | 128.59 | " " " | " |
| 3,000 " (s.) | 127.53 | " " " | " |
| 4,000 " (s.) | 110.40 | Delahaye (Perrot, Dhome and Girod) | Montlhéry |
| 5,000 " (s.) | 109.89 | " | " |
| 10,000 " (s.) | 85.85 | Voisin (Marchand, Morel, etc.) | " |
| 15,000 " (s.) | 85.50 | " " " | " |
| 20,000 " (s.) | 83.67 | Austin Special Yacco (Marchand and Others | " |
| 25,000 " (s.) | 84.14 | " | " |
| 30,000 " (s.) | 77.63 | Citroen (Marchand and Others) | " |
| 40-180,000 miles (s.) | 75.27-57.97 | " " " | " |
| mls. yds. | | | |
| 1 hr. (s.) 134 1,589 | 134.90 | Auto-Union (Stuck) | Avus |
| 3 hrs. (s.) 397 1,356 | 132.59 | Jenkins Special (Jenkins) | Salt Beds |
| 6 hrs. (s.) 784 1,447 | 130.80 | " " | " |
| 12 hrs. (s.) 1,556 1,474 | 129.74 | " " | " |
| 24 hrs. (s.) 3,053 439 | 127.22 | " " | " |
| 2 days (s.) | 109.54 | Delahaye (Perrot, Dhome and Girod) | |
| 3 " (s.) | | | Montlhéry |
| 4 " (s.) | 88.54 | Voisin (Marchand, Morel, etc.) | " |
| 5 " (s.) | 89.35 | " " | " |
| 6 " (s.) | 85.83 | " " | " |
| 7 " (s.) | 85.00 | " " | " |
| 8 " (s.) | 85.94 | " " | " |
| 9 " (s.) | 84.11 | Austin Special Yacco (Marchand and Others) | " |
| 10 " (s.) | 84.32 | " | " |
| 10 " (s.) | 83.68 | " | " |
| 11 " (s.) | 83.90 | " | " |
| 12 " (s.) | 84.07 | " | " |
| 14-133 " (s.) | 77.65-58.07 | Citroen (Marchand and Others) | " |

### INTERNATIONAL CLASS A.—Over 8,000 c.c.

| Record. | Speed. m.p.h. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 km. (s.) | 88.52 | Napier Railton (Cobb) | Brooklands |
| 1 " (f.) | 251.34 | Napier-Campbell (Sir M. Campbell | Daytona |
| 1 mile (s.) | 102.52 | Napier Railton (Cobb) | Brooklands |
| 1 " (f.) | 253.97 | Napier-Campbell (Sir M. Campbell) | Daytona |
| 5 kms. (f.) | 247.94 | " | " |
| 5 miles (f.) | 242.75 | " | " |
| 10 kms. (f.) | 238.67 | " | " |
| 10 miles (f.) | 129.29 | Delage (J. R. Cobb) | Brooklands |
| 50 kms. (s.) | 125.64 | Napier Railton (Cobb, Lewis, Richards and Paul) | Montlhéry |
| 100 " (s.) | 126.73 | " " | " |
| 200 " (s.) | 126.84 | " " | " |
| 500 " (s.) | 123.63 | " " | " |
| 1,000 " (s.) | 122.82 | Napier Railton (Cobb, Dixon, Brackenbury and Paul) | " |
| 2,000 " (s.) | 121.54 | " " | " |
| 3,000 " (s.) | 120.71 | " " | " |
| 4,000 " (s.) | 107.92 | Renault (Garfield, Plessier and Guillon) | " |
| 50 miles (s.) | 126.67 | Napier Railton (Cobb, Lewis Rose-Richards and Paul) | " |
| 100 " (s.) | 127.09 | " " | " |
| 200 " (s.) | 126.44 | " " | " |
| 500 " (s.) | 123.27 | " " | " |
| 1,000 " (s.) | 121.51 | Napier Railton (Cobb, Dixon, Brackenbury and Paul) | " |
| 2,000 " (s.) | 120.71 | " " | " |
| mls. yds. | | | |
| 1 hr. (s.) 126 1,466 | 126.83 | Napier Railton (Cobb, Lewis, Rose-Richards and Paul) | " |
| 3 hrs. (s.) 372 1,734 | 124.33 | " " | " |
| 6 hrs. (s.) 738 83 | 123.01 | Napier Railton (Cobb, Dixon, Brackenbury and Paul) | " |
| 12 hrs. (s.) 1,454 535 | 121.19 | " " | " |
| 24 hrs. (s.) | 107.90 | Renault (Garfield, Plessier and Guillon) | " |

### INTERNATIONAL CLASS B.—5,001-8,000 c.c.

| Record. | Speed. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 km. (s.) | 77.82 | Panhard (Doré) | Arpajon |
| 1 " (f.) | 138.47 | " " | " |
| 1 mile (s.) | 90.59 | " " | " |
| 1 " (f.) | 137.61 | " " | " |
| 5 kms. (f.) | 139.84 | Panhard (Breton) | Montlhéry |
| 5 miles (f.) | 138.78 | " " | " |
| 10 kms. (f.) | 138.95 | " " | " |
| 10 miles (f.) | 126.03 | Leyland-Thomas (Thomas) | Brooklands |
| 50 kms. (s.) | 133.64 | Panhard (Eyston) | Montlhéry |
| 100 " (s.) | 134.73 | " " | " |
| 200 " (s.) | 133.04 | " " | " |
| 500 " (s.) | 132.47 | Jenkins Special (Jenkins) | Salt Beds |
| 1,000 " (s.) | 132.64 | " " | " |
| 2,000 " (s.) | 129.60 | " " | " |
| 3,000 " (s.) | 128.58 | " " | " |
| 4,000 " (s.) | 128.06 | " " | " |
| 5,000 " (s.) | 127.23 | " " | " |
| 10,000 " (s.) | 68.83 | Studebaker (Gulotta and Others) | Atlantic City |
| 15,000 " (s.) | 68.77 | " " " | " |
| 20,000 " (s.) | 68.60 | Studebaker (Stewart and Others) | " |
| 25,000 " (s.) | 68.61 | " " " | " |
| 30,000 " (s.) | 68.59 | " " " | " |
| 35,000 " (s.) | 68.50 | " " " | " |
| 40,000 " (s.) | 68.46 | " " " | " |
| 45,000 " (s.) | 68.78 | " " " | " |
| 50 miles (s.) | 134.62 | Panhard (Eyston) | Montlhéry |
| 100 " (s.) | 132.98 | " " | " |
| 200 " (s.) | 132.18 | Jenkins Special (Jenkins) | Salt Beds |
| 500 " (s.) | 132.61 | " " | " |
| 1,000 " (s.) | 130.91 | , " | " |
| 2,000 " (s.) | 128.59 | " " | " |

| Record. | Speed. | Car and Drivers. | Track. |
|---|---|---|---|
| | m.p.h. | | |
| 3,000 miles (s.) ... | 127.53 | Jenkins Special (Jenkins) ... | Salt Beds |
| 4,000 ,, (s.) ... | 68.70 | Studebaker Guilotta and Others) | Atlantic City |
| 5,000 ,, (s.) ... | 68.80 | ,, ,, ,, | ,, |
| 10,000 ,, (s.) ... | 68.81 | ,, ,, ,, | ,, |
| 15,000 ,, (s.) ... | 68.59 | Studebaker (Stewart and Others) | ,, |
| 20,000 ,, (s.) ... | 68.54 | ,, ,, ,, | ,, |
| 25,000 ,, (s.) ... | 68.47 | ,, ,, ,, | ,, |
| 30,000 ,, (s.) ... | 68.36 | Studebaker (Gulotta and Others) | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 133 22 | 133.01 | Panhard (Eyston) ... ... | Montlhéry |
| 3 hrs.(s.) 397 1,356 | 132.59 | Jenkins Special (Jenkins) ... | Salt Beds |
| 6 hrs.(s.) 784 1,447 | 130.80 | ,, ,, ... | ,, |
| 12 hrs.(s.) 1,556 1,474 | 129.74 | ,, ,, ... | ,, |
| 24 hrs.(s.) 3,053 439 | 127.22 | ,, ,, ... | ,, |

## INTERNATIONAL CLASS C.—3,001-5,000 c.c.

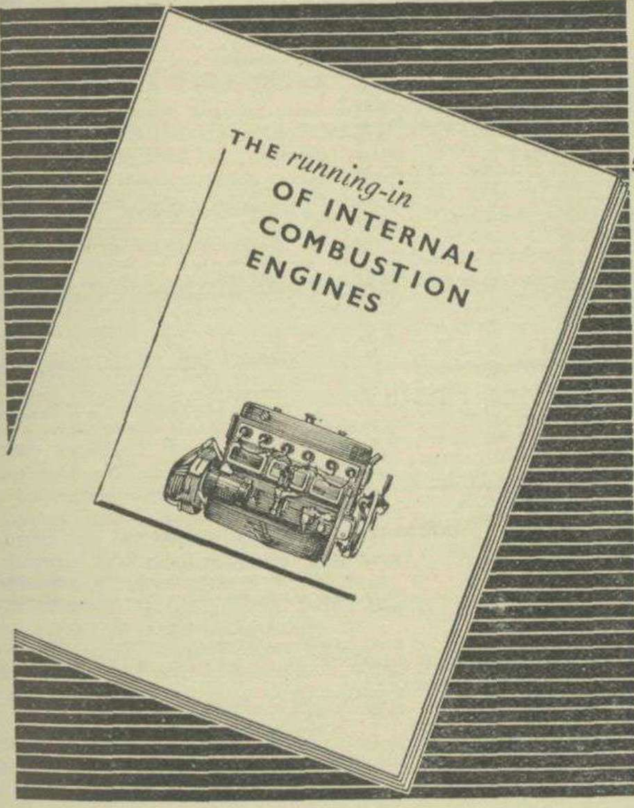
| Record. | Speed. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 km. (s.) ... | 98.03 | Mercédès-Benz (Caracciola) ... | Gyon |
| 1 ,, (f.) ... | 197.35 | ,, ,, ... | ,, |
| 1 mile (s.) ... | 117.23 | ,, ,, ... | ,, |
| 1 ,, (f.) ... | 196.78 | ,, ,, ... | ,, |
| 5 kms. (f.) ... | 193.85 | ,, ,, ... | Avus |
| 5 miles (f.) ... | 147.45 | Union 76 Special (Frame) ... | Murock |
| 10 kms. (f.) ... | 152.90 | Maserati (Borzacchini ... ... | Cremona |
| 10 miles (f.) ... | 146.71 | Union 76 Special (Hartz) ... | Murock |
| 50 kms. (s.) ... | 136.52 | Union 76 Special (Frame) ... | ,, |
| 100 ,, (s.) ... | 124.45 | Sunbeam (Don) ... ... | Brooklands |
| 200 ,, (s.) ... | 122.36 | Bugatti (Don and Eyston) ... | Montlhéry |
| 500 ,, (s.) ... | 117.80 | Delage (Don, Eyston, Eldridge, Frettet and Denly) ... ... | ,, |
| 1,000 ,, (s.) ... | 117.01 | ,, ,, ... ... | ,, |
| 2,000 ,, (s.) ... | 116.08 | ,, ,, ... ... | ,, |
| 3,000 ,, (s.) ... | 111.65 | Delahaye (Perrot, Dhome and Girod) ... ... ... | ,, |
| 4,000 ,, (s.) ... | 111.40 | ,, ... ... ... | ,, |
| 5,000 ,, (s.) ... | 110.81 | ,, ... ... ... | ,, |
| 10,000 ,, (s.) ... | 104.72 | ,, ... ... ... | ,, |
| 15,000 ,, (s.) ... | 84.61 | Austin Special Yacco (Marchand and Others ... ... ... | ,, |
| 20,000 ,, (s.) ... | 83.57 | ,, ... ... ... | ,, |
| 25,000 ,, (s.) ... | 84.06 | ,, ... ... ... | ,, |
| 30,000 ,, (s.) ... | 84.37 | ,, ... ... ... | ,, |
| 35,000 ,, (s.) ... | 83.86 | ,, ... ... ... | ,, |
| 40,000 ,, (s.) ... | 84.13 | ,, ... ... ... | ,, |
| 50 miles (s.) ... | 139.61 | Union 76 Special (Frame) ... | Murock |
| 100 ,, (s.) ... | 123.74 | Sunbeam (Don) ... ... | Brooklands |
| **200** ,, (s.) ... | 117.59 | Delage (Eyston and Denly) ... | Montlhéry |
| **500** ,, (s.) ... | 116.73 | Delage (Don, Eyston, Eldridge, Frettet and Denly) ... | ,, |
| 1,000 ,, (s.) ... | 116.36 | ,, ,, ... | ,, |
| 2,000 ,, (s.) ... | 111.63 | Delahaye (Perrot, Dhome and Girod) ... ... ... | ,, |
| 3,000 ,, (s.) ... | 110.86 | ,, ... ... ... | ,, |
| 4,000 ,, (s.) ... | 110.40 | ,, ... ... ... | ,, |
| 5,000 ,, (s.) ... | 109.89 | ,, ... ... ... | ,, |
| 10,000 ,, (s.) ... | 83.03 | Austin Special Yacco (Marchand and Others) ... ... ... | ,, |
| 15,000 ,, (s.) ... | 83.97 | ,, ... ... ... | ,, |
| 20.000 ,, (s.) ... | 83.67 | ,, ... ... ... | ,, |
| 25,000 ,, (s.) ... | 84.14 | ,, ... ... ... | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 123 23 | 123.01 | Bugatti (Don) ... ... | ,, |
| 3 hrs.(s.) 353 866 | 117.83 | Delage (Eyston, Don, Eldridge, Frettet and Denly) ... ... | Montlhéry |
| 6 hrs.(s.) 702 1,247 | 117.12 | ,, ,, ... ... | ,, |
| 12 hrs.(s.) 1,369 1,262 | 114.14 | Delahaye (Perrot, Dhome and Girod) ... ... ... | ,, |
| 24 hrs.(s.) 2,672 720 | 111.35 | ,, ... ... ... | ,, |
| 2 days (s.) ... | 109.54 | ,, ... ... ... | ,, |
| 3 ,, (s.) ... | 84.24 | Austin Special Yacco (Marchand and Others) ... ... ... | ,, |
| 4 ,, (s.) ... | 84.58 | ,, ... ... ... | ,, |
| 5 ,, (s.) ... | 83.00 | ,, ... ... ... | ,, |
| 6 ,, (s.) ... | 83.48 | ,, ... ... ... | ,, |
| 7 ,, (s.) ... | 83.87 | ,, ... ... ... | ,, |
| 8 ,, (s.) ... | 84.11 | ,, ... ... ... | ,, |
| 9 ,, (s.) ... | 84.32 | ,, ... ... ... | ,, |
| 10 ,, (s.) ... | 83.68 | ,, ... ... ... | ,, |
| 11 ,, (s.) ... | 83.90 | ,, ... ... ... | ,, |
| 12 ,, (s.) ... | 84.07 | ,, ... ... ... | ,, |
| 13 ,, (s.) ... | 66.43 | Hotchkiss (Tchernousky, Vasselle, etc. ... ... ... | ,, |
| 14 ,, (s.) ... | 66.14 | ,, ... ... ... | ,, |
| 15 ,, (s.) ... | 66.24 | ,, ... ... ... | ,, |
| 16 ,, (s.) ... | 65.90 | ,, ... ... ... | ,, |

## INTERNATIONAL CLASS D.—2,001-3,000 c.c.

| Record. | Speed. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 km. (s.) ... | 88.33 | Maserati (Ruesch) ... ... | Montlhéry |
| 1 ,, (f.) ... | 136.98 | ,, (Straight) ... ... | Brooklands |
| 1 mile (s.) ... | 91.65 | Bugatti (Hartmann) ... ... | Tat |
| 1 ,, (f.) ... | 135.49 | Maserati (Straight) ... ... | Brooklands |
| 5 kms. (f.) ... | 131.03 | Bugatti (Divo) ... ... ... | Montlhéry |
| 5 miles (f.) ... | 126.85 | Sunbeam (Dunfee) ... ... | ,, |
| 10 kms. (f.) ... | 138.77 | Alfa Romeo (Brilli-Peri) ... | Cremona |
| 10 miles (f.) ... | 126.48 | Sunbeam (Dunfee) ... ... | Montlhéry |
| 50 kms. (s.) ... | 130.50 | Maserati (Zehender) ... ... | ,, |
| 100 ,, (s.) ... | 131.78 | ,, ,, ... ... | ,, |
| 200 ,, (s.) ... | 124.67 | Bugatti (Divo) ... ... ... | ,, |
| 500 ,, (s.) ... | 119.98 | ,, (Divo and Chiron) ... | ,, |
| 1,000 ,, (s.) ... | 104.76 | Talbot (Lewis and Hindmarsh) | Brooklands |
| 2,000 ,, (s.) ... | 100.23 | Bentley (Barnato, Benjafield and Clement) ... ... ... | Montlhéry |
| 3,000 ,, (s.) ... | 98.61 | Citroen Special Yacco (Marchand and Others) ... ... ... | ,, |
| 4,000 ,, (s.) ... | 97.61 | ,, ... ... ... | ,, |
| 5,000 ,, (s.) ... | 96.69 | ,, ... ... ... | ,, |
| 10,000 ,, (s.) ... | 81.02 | Citroen (Boillot and Others) ... | ,, |
| 15,000 ,, (s.) ... | 81.87 | ,, ,, ... | ,, |
| 20,000 kms. (s.) ... | 81.97 | Citroen (Boillot and Others ... | Montlhéry |
| 25,000 ,, (s.) ... | 78.24 | ,, (Marchand and Others) | ,, |
| 30,000 ,, (s.) ... | 77.87 | ,, ,, ,, | ,, |
| 35,000 ,, (s.) ... | 77.42 | ,, ,, ,, | ,, |
| 40,000 ,, (s.) ... | 77.65 | ,, ,, ,, | ,, |
| 45,000 ,, (s.) ... | 77.64 | ,, ,, ,, | ,, |
| 50,000 ,, (s.) ... | 77.56 | ,, ,, ,, | ,, |
| 60,000 ,, (s.) ... | 75.82 | ,, ,, ,, | ,, |
| 70,000 ,, (s.) ... | 74.92 | ,, ,, ,, | ,, |
| 80,000 ,, (s.) ... | 74.11 | ,, ,, ,, | ,, |
| 90,000 ,, (s.) ... | 65.37 | ,, ,, ,, | ,, |
| 100,000 ,, (s.) ... | 64.83 | ,, ,, ,, | ,, |
| 110,000 ,, (s.) ... | 64.76 | ,, ,, ,, | ,, |
| 120,000 ,, (s.) ... | 64.79 | ,, ,, ,, | ,, |
| 130,000 ,, (s.) ... | 64.84 | ,, ,, ,, | ,, |
| 50 miles (s.) ... | 131.47 | Maserati (Zehender) ... ... | ,, |
| 100 ,, (s.) ... | 132.43 | ,, ,, ... ... | ,, |
| 200 ,, (s.) ... | 118.00 | Bugatti (Divo and Chiron) ... | ,, |
| 500 ,, (s.) ... | 119.24 | ,, ,, ... ... | ,, |
| 1,000 ,, (s.) ... | 101.56 | Bentley (Barnato, Duller and Clement) ... ... ... | ,, |
| 2,000 ,, (s.) ... | 98.60 | Citroen Special Yacco (Marchand and Others) ... ... ... | ,, |
| 3,000 ,, (s.) ... | 96.88 | ,, ... ... ... | ,, |
| 4,000 ,, (s.) ... | 96.16 | ,, ... ... ... | ,, |
| 5,000 ,, (s.) ... | 81.78 | Citroen (Boillot and Others) ... | ,, |
| 10,000 ,, (s.) ... | 81.88 | ,, ,, ... | ,, |
| 15,000 ,, (s.) ... | 78.14 | ,, (Marchand and Others) | ,, |
| 20,000 ,, (s.) ... | 77.77 | ,, ,, ... | ,, |
| 25,000 ,, (s.) ... | 77.60 | ,, ,, ... | ,, |
| 30,000 ,, (s.) ... | 77.63 | ,, ,, ... | ,, |
| 40,000 ,, (s.) ... | 75.27 | ,, ,, ... | ,, |
| 50,000 ,, (s.) ... | 65.78 | ,, ,, ... | ,, |
| 60,000 ,, (s.) ... | 65.04 | ,, ,, ... | ,, |
| 70,000 ,, (s.) ... | 64.78 | ,, ,, ... | ,, |
| 80,000 ,, (s.) ... | 64.84 | ,, ,, ... | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 124 1,196 | 124.68 | Bugatti (Divo) ... ... ... | ,, |
| 3 hrs.(s.) 361 1,614 | 170.64 | ,, (Divo and Chiron) ... | ,, |
| 6 hrs.(s.) 678 1,104 | 104.77 | Talbot (Lewis and Hindmarsh) | Brooklands |
| 12 hrs.(s.) 1,211 952 | 100.96 | Bentley (Barnato, Duller and Clement) ... ... ... | Montlhéry |
| 24 hrs.(s.) 2,355 1,672 | 98.16 | Citroen Special Yacco (Marchand and Others) ... ... ... | ,, |
| 2 days (s.) ... | 81.31 | Citroen (Boillot and Others) ... | ,, |
| 3 ,, (s.) ... | 81.18 | ,, ,, ,, ... | ,, |
| 4 ,, (s.) ... | 81.57 | ,, ,, ,, ... | ,, |
| 5 ,, (s.) ... | 81.88 | ,, ,, ,, ... | ,, |
| 6 ,, (s.) ... | 81.89 | ,, ,, ,, ... | ,, |
| 7 ,, (s.) ... | 81.29 | ,, ,, ,, ... | ,, |
| 8 ,, (s.) ... | 78.14 | ,, (Marchand and Others) | ,, |
| 9 ,, (s.) ... | 78.48 | ,, ,, ,, ... | ,, |
| 10 ,, (s.) ... | 77.88 | ,, ,, ,, ... | ,, |
| 11 ,, (s.) ... | 77.83 | ,, ,, ,, ... | ,, |
| 14 ,, (s.) ... | 77.65 | ,, ,, ,, ... | ,, |
| 21 ,, (s.) ... | 75.71 | ,, ,, ,, ... | ,, |
| 28 ,, (s.) ... | 74.04 | ,, ,, ,, ... | ,, |
| 35 ,, (s.) ... | 65.45 | ,, ,, ,, ... | ,, |
| 42 ,, (s.) ... | 64.69 | ,, ,, ,, ... | ,, |
| 49 ,, (s.) ... | 64.82 | ,, ,, ,, ... | ,, |
| 54 ,, (s.) ... | 64.65 | ,, ,, ,, ... | ,, |

## INTERNATIONAL CLASS E.—1,501-2,000 c.c.

| Record. | Speed. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 km. (s.) ... | 89.73 | E.R.A. (Mays) ... ... ... | Brooklands |
| 1 ,, (f.) ... | 147.79 | Derby Special (Mrs. Stewart) ... | Montlhéry |
| 1 mile (s.) ... | 94.01 | Bugatti (Prince Liechenstein) ... | Tat |
| 1 ,, (f.) ... | 147.79 | Derby Special (Mrs. Stewart) ... | Montlhéry |
| 5 kms. (f.) ... | 140.35 | ,, ,, ... | ,, |
| 5 miles (f.) ... | 140.17 | ,, ,, ... | ,, |
| 10 kms. (f.) ... | 140.07 | ,, ,, ... | ,, |
| 50 ,, (s.) ... | 126.83 | ,, ,, ... | ,, |
| 100 ,, (s.) ... | 128.16 | ,, ,, ... | ,, |
| 200 ,, (s.) ... | 121.75 | ,, ,, ... | ,, |
| 500 ,, (s.) ... | 109.67 | Sunbeam (Dunfee and Bamber) | ,, |
| 1,000 ,, (s.) ... | 101.55 | Hotchkiss (Eyston, Vasselle and Denly) ... ... ... | ,, |
| 2,000 ,, (s.) ... | 98.33 | ,, (Eyston, and Denly) | ,, |
| 3,000 ,, (s.) ... | 97.76 | ,, ,, ,, ... | ,, |
| 4,000 ,, (s.) ... | 96.88 | ,, ,, ,, ... | ,, |
| 5,000 ,, (s.) ... | 96 66 | ,, ,, ,, ... | ,, |
| 10,000 ,, (s.) ... | 77.39 | A.C. (Mr. and Mrs. Bruce) ... | ,, |
| 15,000 ,, (s.) ... | 75.73 | ,, ,, ... | ,, |
| 20,000 ,, (s.) ... | 66.76 | ,, (Mr. and Mrs. Bruce and Joyce) ... ... ... | ,, |
| 50 miles (s.) ... | 127.97 | Derby Special (Mrs. Stewart) ... | ,, |
| 100 ,, (s.) ... | 121.64 | ,, ,, ... | ,, |
| 200 ,, (s.) ... | 117.67 | Sunbeam (Dunfee and Bamber) | ,, |
| 500 ,, (s.) ... | 101.13 | Hotchkiss (Eyston, Vasselle and Denly( ... ... ... | ,, |
| 1,000 ,, (s.) ... | 99.07 | ,, (Eyston and Denly) | ,, |
| 2,000 ,, (s.) ... | 97.75 | ,, ,, ... | ,, |
| 3,000 ,, (s.) ... | 96.69 | ,, ,, ... | ,, |
| 4,000 ,, (s.) ... | 95,76 | ,, ,, ... | ,, |
| 5,000 ,, (s.) ... | 94.73 | ,, ,, ... | ,, |
| 10,000 ,, (s.) ... | 69.10 | Citroen Special Yacco (Marchand and Others) ... ... ... | ,, |
| 15,000 ,, (s.) ... | 68.01 | A.C. (Mr. and Mrs. Bruce and Joyce) ... ... ... | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 121 1,324 | 121.75 | Derby Special (Mrs. Stewart) ... | Montlhéry |
| 3 hrs.(s.) 328 1;120 | 109.54 | Sunbeam (Dunfee and Bamber) | ,, |
| 6 hrs.(s.) 609 41 | 101.50 | Hotchkiss (Eyston, Vesselle and Denly) ... ... ... | ,, |
| 12 hrs.(s.) 1,179 798 | 98.29 | Hotchkiss (Eyston and Denly) | ,, |
| 4 hrs.(s.) 2,344 1,557 | 97.70 | ,, ,, ,, ... | ,, |
| 2 days (s.) ... | 95.36 | ,, ,, ,, ... | ,, |
| 3 ,, (s.) ... | 69.62 | Citroen Special Yacco (Marchand and Others) ... ... ... | ,, |



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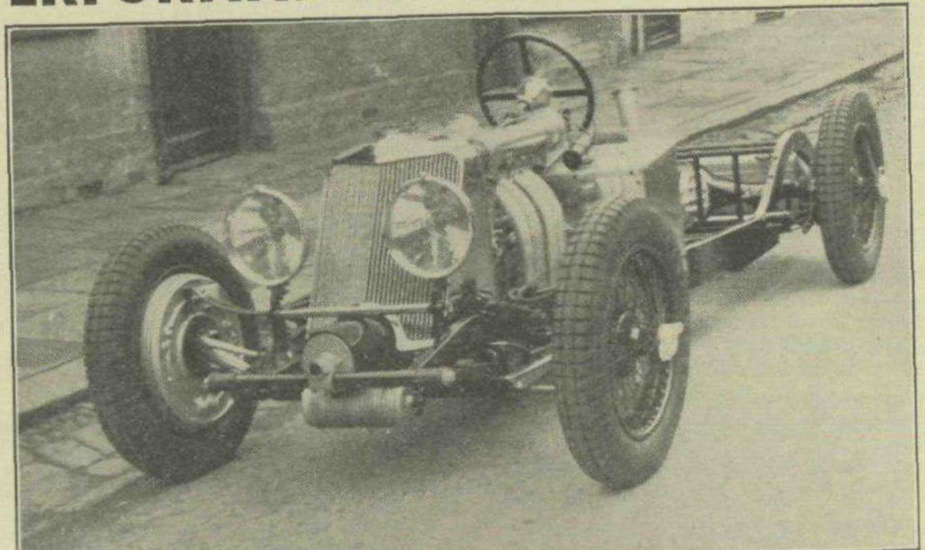

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'PHONE: HENLEY-ON-THAMES 352

| Record. | Speed. m.p.h. | Car and Drivers | Track. |
|---|---|---|---|
| 4 days (s.) | 69.70 | Citroen Specia Yacco(Marchand and Others) | Montlhery |
| 5 ,, (s.) | 69.78 | ,, | ,, |
| 6 ,, (s.) | 69.09 | ,, | ,, |

### INTERNATIONAL CLASS F.—1,101-1,500 c.c.

| | | | |
|---|---|---|---|
| 1 km. (s.) | 85.35 | E.R.A. (Mays) | Brooklands |
| 1 ,, (f.) | 143.30 | Packard Cable Special (Duray) | Arpajon |
| 1 mile (s.) | 96.08 | E.R.A. (Mays) | Brooklands |
| 1 ,, (f.) | 164.01 | Miller (Lockhart) | Murock |
| 5 kms. (f.) | 139.54 | Packard Cable Special (Duray) | Montlhéry |
| 5 miles (f.) | 139.22 | ,, ,, ,, | ,, |
| 10 kms. (f.) | 138.92 | ,, ,, ,, | ,, |
| 10 miles (f.) | 135.33 | ,, ,, ,, | ,, |
| 50 kms. (s.) | 120.06 | Miller (Eldridge) | ,, |
| 100 ,, (s.) | 122.46 | ,, ,, | ,, |
| 200 ,, (s.) | 118.88 | Bugatti (Veyron) | ,, |
| 500 ,, (s.) | 115.14 | ,, ,, | ,, |
| 1,000 ,, (s.) | 113.34 | ,, ,, | ,, |
| 2,000 ,, (s.) | 101.04 | Riley (Eyston and Maclure) | ,, |
| 3,000 ,, (s.) | 82.54 | ,, (Eyston, Maclure and Denly) | ,, |
| 4,000 ,, (s.) | 61.87 | Citroen (Marchand and Others) | ,, |
| 5,000 ,, (s.) | 61.68 | ,, | ,, |
| 10,000 ,, (s.) | 61.87 | ,, | ,, |
| 15,000 ,, (s.) | 58.95 | ,, | ,, |
| 20,000 ,, (s.) | 58.44 | ,, | ,, |
| 25,000 ,, (s.) | 58.47 | ,, | ,, |
| 30,000 ,, (s.) | 58.36 | ,, | ,, |
| 35,000 ,, (s.) | 58.16 | ,, | ,, |
| 40,000 ,, (s.) | 58.31 | ,, | ,, |
| 45,000 ,, (s.) | 58.46 | ,, | ,, |
| 50,000 ,, (s.) | 58.55 | ,, | ,, |
| 60-300,000 (s.) | 58.40-<br>58.08 | ,, | ,, |
| 50 miles (s.) | 121.88 | Miller (Eldridge) | ,, |
| 100 ,, (s.) | 119.01 | Bugatti (Veyron) | ,, |
| 200 ,, (s.) | 116.51 | ,, ,, | ,, |
| 500 ,, (s.) | 114.29 | ,, ,, | ,, |
| 1,000 ,, (s.) | 102.35 | Riley (Eyston and Maclure) | ,, |
| 2,000 ,, (s.) | 69.00 | Delage (Scott, Payne and Rose-Richards) | ,, |
| 3,000 ,, (s.) | 61.72 | Citroen (Marchand and Others) | ,, |
| 4,000 ,, (s.) | 61.74 | ,, ,, ,, | ,, |
| 5,000 ,, (s.) | 61.85 | ,, ,, ,, | ,, |
| 10,000 ,, (s.) | 58.21 | ,, ,, ,, | ,, |
| 15,000 ,, (s.) | 58.43 | ,, ,, ,, | ,, |
| 20,000 ,, (s.) | 58.43 | ,, ,, ,, | ,, |
| 25,000 ,, (s.) | 58.32 | ,, ,, ,, | ,, |
| 30,000 ,, (s.) | 58.52 | ,, ,, ,, | ,, |
| 40,000 ,, (s.) | 58.42 | ,, ,, ,, | ,, |
| 50,000 ,, (s.) | 58.41 | ,, ,, ,, | ,, |
| 60-180,000 miles (s.) | 58.39-<br>57.97 | ,, ,, ,, | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 119 26 | 119.01 | Bugatti (Veyron) | ,, |
| 3 hrs.(s.) 343 996 | 114.52 | ,, ,, | ,, |
| 6 hrs.(s.) 677 1,526 | 112.98 | ,, ,, | ,, |
| 12 hrs.(s.) 1,213 313 | 101.10 | Riley (Eyston and Maclure) | ,, |
| 24 hrs.(s.) 1,977 1,388 | 82.41 | ,, (Eyston, Maclure and Denly) | ,, |
| 2 days (s.) | 61.71 | Citroen (Marchand and Others) | ,, |
| 3 ,, (s.) | 61.81 | ,, ,, ,, | ,, |
| 4 ,, (s.) | 61.85 | ,, ,, ,, | ,, |
| 5 ,, (s.) | 61.88 | ,, ,, ,, | ,, |
| 6 ,, (s.) | 58.96 | ,, ,, ,, | ,, |
| 7 ,, (s.) | 58.18 | ,, ,, ,, | ,, |
| 8 ,, (s.) | 58.35 | ,, ,, ,, | ,, |
| 9 ,, (s.) | 58.48 | ,, ,, ,, | ,, |
| 10 ,, (s.) | 58.34 | ,, ,, ,, | ,, |
| 14-133 ,, (s.) | 58.41-<br>58.07 | ,, ,, ,, | ,, |

### INTERNATIONAL CLASS G.—751-1,100 c.c.

| | | | |
|---|---|---|---|
| 1 km. (s.) | 79.75 | E.R.A. (Cook) | Brooklands |
| 1 ,, (f.) | 138.345 | Masserati (Fournaniks) | Florence |
| 1 mile (s.) | 88.91 | E.R.A. (Cook) | Brooklands |
| 1 ,, (f.) | 128.70 | M.G. (Eyston) | Montlhéry |
| 5 kms. (f.) | 128.69 | ,, ,, | ,, |
| 5 miles (f.) | 128.62 | ,, ,, | ,, |
| 10 kms. (f.) | 128.58 | ,, ,, | ,, |
| 10 miles (f.) | 128.53 | ,, ,, | ,, |
| 50 kms. (s.) | 119.84 | ,, ,, | ,, |
| 100 ,, (s.) | 121.65 | ,, ,, | ,, |
| 200 ,, (s.) | 120.82 | ,, ,, | ,, |
| 500 ,, (s.) | 104.09 | Riley (Eyston and Denly) | ,, |
| 1,000 ,, (s.) | 99.26 | ,, ,, ,, | ,, |
| 2,000 ,, (s.) | 85.43 | Amilcar (Duray and de Gavardie) | ,, |
| 3,000 ,, (s.) | 84.95 | ,, ,, ,, | ,, |
| 4,000 ,, (s.) | 64.85 | Riley (Eyston and Eldridge) | ,, |
| 5,000 ,, (s.) | 64.39 | ,, ,, ,, | ,, |
| 10,000 ,, (s.) | 51.20 | Renault (Bertrand, Armand, etc.) | Miramas |
| 15,000 ,, (s.) | 48.97 | ,, ,, ,, | ,, |
| 50 miles (s.) | 120.72 | M.G. (Eyston) | Montlhéry |
| 100 ,, (s.) | 121.13 | ,, ,, | ,, |
| 200 ,, (s.) | 104.20 | Riley (Eyston and Denly) | ,, |
| 500 ,, (s.) | 98.18 | ,, ,, | ,, |
| 1,000 ,, (s.) | 85.33 | Amilcar (Duray and de Gavardie) | ,, |
| 2,000 ,, (s.) | 85. 0 | ,, ,, ,, | ,, |
| 3,000 ,, (s.) | 64.44 | Riley (Eyston and Eldridge) | ,, |
| 4,000 ,, (s.) | 50.80 | Renault (Bertrand, Armand, etc.) | Miramas |
| 5,000 ,, (s.) | 50.78 | ,, ,, ,, | ,, |
| 10,000 ,, (s.) | 49.18 | ,, ,, ,, | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 120 1,554 | 120.88 | M.G. (Eyston) | Montlhéry |
| 3 hrs.(s.) 312 464 | 104.09 | Riley (Eyston and Eldridge) | ,, |
| 6 hrs.(s.) 504 692 | 99.07 | ,, ,, | ,, |
| 12 hrs.(s.) 1,025 525 | 85.44 | Amilcar (Duray and de Gavardie) | ,, |
| 24 hrs.(s.) 2,041 1,056 | 85.00 | ,, ,, ,, | ,, |
| days (s.) | 64.37 | Riley (Eyston and Eldridge) | ,, |

### INTERNATIONAL CLASS H—501-750 c.c.

| Record. | Speed. m.p.h. | Car and Drivers. | Track. |
|---|---|---|---|
| 1 km. (s.) | 75.41 | M.G. (Everitt | Brooklands |
| 1 ,, (f.) | 128.62 | ,, (Denly) | Montlhéry |
| 1 mile (s.) | 85.59 | ,, (Everitt) | Brooklands |
| 1 ,, (f.) | 128.62 | ,, (Denly) | Montlhéry |
| 5 kms. (f.) | 128.50 | ,, ,, | ,, |
| 5 miles (f.) | 128.08 | ,, ,, | ,, |
| 10 kms. (f.) | 127.45 | ,, ,, | ,, |
| 10 miles (f.) | 125.56 | ,, ,, | ,, |
| 50 kms. (s.) | 115.00 | ,, ,, | ,, |
| 100 ,, (s.) | 113.50 | ,, ,, | ,, |
| 200 ,, (s.) | 111.04 | ,, (Horton) | Brooklands |
| 500 ,, (s.) | 91.77 | ,, (Eyston and Denly) | Montlhéry |
| 1,000 ,, (s.) | 91.77 | ,, ,, | ,, |
| 2,000 ,, (s.) | 77.18 | ,, (Maillard-Brune and Druck) | ,, |
| 50 miles (s.) | 114.47 | ,, (Denly) | ,, |
| 100 ,, (s.) | 111.67 | ,, (Horton) | Brooklands |
| 200 ,, (s.) | 95.02 | ,, Eyston and Denly) | Montlhéry |
| 500 ,, (s.) | 92.50 | ,, ,, | ,, |
| 1,000 ,, (s.) | 88.36 | ,, ,, | ,, |
| 2,000 ,, (s.) | 69.95 | ,, (Eyston, Denly and Wisdom) | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 111 1,297 | 111.74 | ,, (Horton) | Brooklands |
| 3 hrs.(s.) 283 1,344 | 94.59 | ,, (Eyston and Denly) | Montlhéry |
| 6 hrs.(s.) 556 1,341 | 92.79 | ,, ,, | ,, |
| 12 hrs.(s.) 1,040 131 | 86.67 | ,, ,, | ,, |
| 24 hrs.(s.) 1,831 | 76.30 | ,, (Maillard-Brune and Druck) | ,, |

### INTERNATIONAL CLASS I.—351-500 c.c.

| | | | |
|---|---|---|---|
| 1 km. (s.) | 55.83 | D. K. W. Silton Special (V. de Strasser Silton) | Neunkirchen |
| 1 ,, (f.) | 84.58 | De Rovin (De Rovin) | Arpajon |
| 1 mile (s.) | 59.89 | D. K. W. Silton Special (V. de Strasser Silton) | Tat |
| 5 kms. (f.) | 83.97 | De Rovin (De Rovin) | Montlhéry |
| 5 miles (f.) | 82.49 | ,, ,, | ,, |
| 10 kms. (f.) | 82.73 | ,, ,, | ,, |
| 10 miles (f.) | 81.91 | ,, ,, | ,, |
| 50 kms. (s.) | 79.88 | Standard (von Fuchsenfeld and Meyer) | ,, |
| 100 ,, (s.) | 78.82 | ,, | ,, |
| 200 ,, (s.) | 68.63 | D.K.W. (von Fuchsenfeld and Meyer) | ,, |
| 500 ,, (s.) | 68.30 | Standard (von Fuchsenfeld and Meyer) | ,, |
| 1,000 ,, (s.) | 63.95 | D.K.W. (von Fuchsenfeld and Meyer) | ,, |
| 2,000 ,, (s.) | 61.08 | ,, | ,, |
| 50 miles (s.) | 80.27 | Standard (von Fuchsenfeld and Meyer) | ,, |
| 100 ,, (s.) | 68.56 | D.K.W. (von Fuchsenfeld and Meyer) | ,, |
| 200 ,, (s.) | 66.84 | ,, | ,, |
| 500 ,, (s.) | 64.57 | ,, | ,, |
| 1,000 ,, (s.) | 62.56 | ,, | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 74 700 | 74.44 | De Rovin (De Rovin) | ,, |
| 3 hrs.(s.) 200 923 | 66.84 | D. K. W. (von Fuchsenfeld and Meyer) | ,, |
| 6 hrs.(s.) 406 339 | 67.70 | Standard (von Fuchsenfeld and Meyer) | ,, |
| 12 hrs.(s.) 764 1,429 | 63.65 | D.K.W. (von Fuchsenfeld and Meyer) | ,, |
| 24 hrs.(s.) 1,364 1,065 | 56.85 | ,, | ,, |

### INTERNATIONAL CLASS J.—Up to 350 c.c.

| | | | |
|---|---|---|---|
| 1 km. (s.) | 52.92 | Jappic (Walters) | Brooklands |
| 1 ,, (f.) | 77.52 | Vitesse (Gush) | ,, |
| 1 mile (s.) | 58.12 | Jappic (Walters) | ,, |
| 1 ,, (f.) | 77.52 | Vitesse (Gush) | ,, |
| 5 kms. (f.) | 77.48 | ,, ,, | ,, |
| 5 miles (f.) | 77.42 | ,, ,, | ,, |
| 10 kms. (f.) | 77.36 | ,, ,, | ,, |
| 10 miles (f.) | 77.23 | ,, ,, | ,, |
| 50 kms. (s.) | 73.44 | ,, ,, | ,, |
| 100 ,, (s.) | 73.13 | ,, ,, | ,, |
| 200 ,, (s.) | 62.93 | Voran (von Koenig-Fuchsenfeld) | Montlhéry |
| 500 ,, (s.) | 51.66 | Vitesse (Richards, Selby and le Croisette) | Brooklands |
| 50 miles (s.) | 73.32 | ,, (Gush) | ,, |
| 100 ,, (s.) | 70.95 | H.S. (Mrs. Stewart) | Montlhéry |
| 200 ,, (s.) | 51.37 | Vitesse (Gush and Greenhough) | Brooklands |
| 500 ,, (s.) | 48.26 | ,, (Richards, Selby and le Croisette) | ,, |
| mls. yds. | | | |
| 1 hr. (s.) 73 67 | 73.04 | ,, (Gush) | ,, |
| 3 hrs.(s.) 155 546 | 51.77 | ,, (Richards and Selby) | ,, |
| 6 hrs.(s.) 309 1,542 | 51.65 | ,, (Richards, Selby and le Croisette) | ,, |
| 12 hrs.(s.) 514 1,124 | 42.89 | ,, | ,, |
| 24 hrs.(s.) 514 1,124 | 42.89 | ,, | ,, |

## BROOKLANDS RECORDS.

### Main Outer Circuit Lap Record.

| | m.p.h. |
|---|---|
| Napier-Railton (Cobb) | 140.91 |

### Mountain Circuit Lap Record.

| | |
|---|---|
| Maserati (Straight) | 81.00 |

[*continued on next page*

# Letters from Readers

### Trials and Races "Down Under."

Sir,—I have just been reading your issue of October, which describes the Brooklands "500," and this has prompted me to write you of what I think is a pretty good effort. In the recent Victorian Centenary Grand Prix, C. R. Warren driving a "Q" type M.G. Midget (actually the third of its type to be built) put in 4 gallons of petrol, checked the oil, refilled radiator, and tested the tightness of each wheel in 20 seconds exactly. (By the rules of the race two mechanics, in addition to the driver, are allowed to work on the car.—Ed.)

The winner was "Gardner" in a Ford V8, who averaged 73 m.p.h. The race is a straightout handicap and contained some quite good cars. In addition to the "Q" there was a factory Riley M.P.H. (one which ran 12th at Le Mans this year, I believe). Unfortunately it blew a gasket after 5 laps. The "Q" Midget lapped steadily at 82½ m.p.h. and its highest speed on the back straight at a place called the "Needle's Eye" seemed to be between 115 and 118 m.p.h.

Turning to another subject, it has often surprised me that so many people get through with clean sheets in your reliability trials, and I often wonder what the speed schedule is. In one Midnight Trial in which I participated recently we were set an average of 48½ m.p.h. for about 200 miles, with no deductions for the sub-events which on this section were a ¾-mile hill-climb and a flying half-mile. Of course the roads were quite good, but it kept the people with standard cars fairly busy. Speed schedules vary from about 33 to 45 m.p.h. as a rule. In the Club I am connected with they are set by sending two big and good cars round the route as hard as they can go, and then using their times as a basis. Of course the averages vary a bit between the various classes, but that is all. I suppose this may help to explain why fussy and low-geared under-powered cars are not much liked here, although of course M.G.s, Le Mans, Singers and the better types of Rileys do quite well.

The next event on our programme here is called the Border Rally—actually a misnomer, for it consists of a point-to-point and return Sunday afternoon run of 400 miles. Although the rules are not officially out, the trial is normal in that there are marks for being too early, and there is a flying 5 and it is hoped a flying 10 miles against the watch. Of course we try to forget that there is a £50 penalty for trials of speed on a road, but once we are clear of the towns the authorities don't mind much.

American cars are just starting to enter for events here again, and so far there has not been much that can beat a Ford V8—even on formula—although sometimes a really good J.2 or J.3 Midget can manage it.

The sort of record we recognise is one like this: 600 miles, Melbourne to Sydney. The open record for the distance is 9 hours 50½ minutes, held by Beith in a Chrysler Special, and made since the road was improved, while the 2,000 c.c. record for the same distance is held by C. R. Warren in a Bugatti at about 10 hours.

Melbourne, "Down Under."
Australia.

### A Grand Prix Suggestion.

Sir,—It is quite obvious that speeds will have to be reduced in some way or other in races run under the Formula for 1936. Of all the suggested methods the reduction of engine size is the one that appeals to me most. There is no need to come right down to 1,500 c.c. with one jump; 2 litres is a good figure. There is no reason why a really modern 2-litre job should not do 140 m.p.h. on the road, quite fast enough for the most blood-thirsty spectators to get a "kick" out of watching a race.

Weight limitations, if on the generous scale, do not bring out those subtleties of weight distribution which play such an enormous part in road-holding. Let designers make their cars as light as possible, and develop road-holding. The same thing applies to special fuels, and the banning of same. It is largely owing to special racing fuels that the modern car develops so much more power than its predecessors of a decade ago. The excessive fuel consumption of racing cars is admittedly bad, but limitation can easily result in people running out of petrol on the last lap. After all, a race should be a race—of speed.

London, W. 10. "Two-Litre."

### Competition Tyres Again.

Surely it is time that the organisers of trials realised their duty, i.e. to run reliability trials, and not gymkhanas. All this nonsense about "Stop and Go Tests," "Special Tests," and "Driving Tests" is only worthy of schoolboys playing with bicycles. The primary purpose of a reliability trial—at least it always used to be—was to test the ability of cars and drivers to climb hills. "But we can't find stiff enough hills," bleats the average organiser. But some people manage to do it, the M.C.C. with Simms, the N.W.L. with Juniper and some of the other hills in the 'Gloucester.'

Admittedly they have a difficult task, but then it is entirely their own fault. They allow people to use the most ridiculously "knobbly" tyres, which will get a grip on practically anything, and are not, incidentally, within the scope of all the competitors' pockets. If everyone was forced to use standard tyres there would be a very different tale to tell on many hills which are now climbed by the whole entry.

But instead of taking the obvious course, i.e. banning any but perfectly normal tyres, the organiser devise their childish fun and games. Stop and Restart Tests have simply resulted in manufacturers using bottom gears so low that they are utterly useless on the level. Many of the tests demand a kind of trick-driving on the part of competitors not nearly so discriminating as piloting a car with normal tyres up a slippery hill.

Cut out the gymkhana business and let us get back to real trials.

Birmingham. "Old Timer."

### The Next G.P. Formula.

Sir,—In the October issue of Motor Sport there was a page headed "Is The Formula a Success." At the bottom it invites readers to send their opinions, so I thought I would have a shot; here it is.

I agree with the writer that Grand Prix racing is getting so fast that it is only the super drivers who can handle the cars used in these races.

I think the using of normal fuels, and the omitting of blowers would decrease the speed a lot. The using of standard made cars and omitting special made cars would also bring down the speeds, and racing would be of more useful interest to the public.

15, Halmsead Ave.,
Whiston, Lancs.
G. Griffiths.

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*1934 RECORDS—Continued from preceding page.*

### CLASS RECORDS.

#### Main Outer Circuit.

| | | m.p.h. |
|---|---|---|
| Class A. | Napier-Railton (Cobb) ... ... ... | 140.91 |
| ,, B. | Panhard (Eyston) ... ... ... ... | 131.76 |
| ,, C. | Duesenberg (Straight) ... ... ... ... | 138.15 |
| ,, D. | Bugatti (Earl Howe) ... ... ... ... | 129.80 |
| ,, E. | Sunbeam (Don)... ... ... ... ... | 126.73 |
| ,, F. | Delage (Earl Howe) ... ... ... ... | 127.05 |
| ,, G. | M.G. (Horton) ... ... ... ... ... | 123.58 |
| ,, H. | M.G. (Horton ... ... ... ... ... | 116.64 |

#### Mountain Circuit.

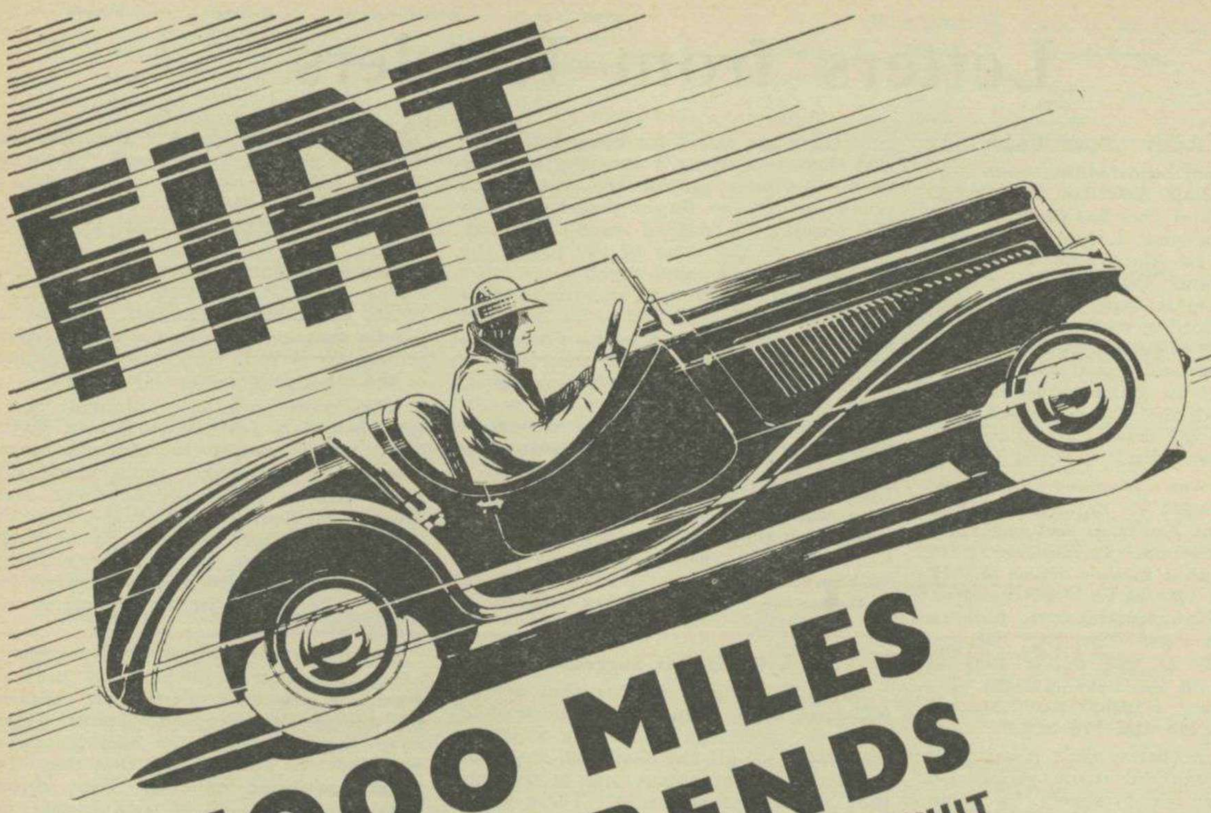
| | | m.p.h. |
|---|---|---|
| Class A. | No record. | |
| ,, B. | Mercédès-Benz (Sir M. Campbell) ... ... | 73.89 |
| Class C. | Sunbeam (Sir M. Campbell) ... ... ... | 76.31 |
| ,, D. | Maserati (Straight) ... ... ... ... | 81.00 |
| ,, E. | E.R.A. (Mays) ... ... ... ... ... | 80.69 |
| ,, F. | E.R.A. (Mays) ... ... ... ... ... | 76.31 |
| ,, G. | Alta (Cormack) ... ... ... ... | 73.56 |
| ,, H. | M.G. Everitt) ... ... ... ... ... | 74.58 |

#### British Double 12-Hour Record.

Bentley.—2,082 miles, 1,726 yards ... ... ... 86.79

#### Test Hill Record.

| Cars. | m.p h. | Cycle Cars. | m.p.h. |
|---|---|---|---|
| Frazer-Nash (Nash) ... | 32.444 | Frazer-Nash (Cushman) | 28.31 |



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Total time for 1,000 miles, 18 hrs., 8 mins., 39.2 secs., at an average of **55.11 m.p.h. inclusive of stops.**

(*Subject to official confirmation.*)

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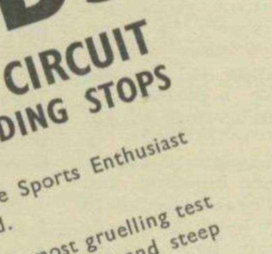

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# FORTY YEARS

## By "BALADEUR."

DURING September, 1934, a procession of motor cars, all at least thirty years old, might have been encountered traversing the road from Paris to Rouen. They were celebrating, actually, no less an anniversary than the fortieth of the modern motor car. For in July, 1894, was organised the first competition for horseless carriages over this same road along the valley of the Seine.

I do not propose on the present occasion to describe the events of that epoch making original run. Its anniversary has passed almost unnoticed in England, where, forty years ago, the difference between a motor car and a traction engine was not appreciated; and lest the fact that 1934 was an anniversary be altogether forgotten in this country, I propose to lay bare to you the history of the motor car during these four decades. The Editor, however, informs me that he cannot include an over-size book in one number of MOTOR SPORT, and thus instead of a narrative I shall fall back on a series of four tableaux, consisting of the racing cars of 1894, 1904, 1914 and 1924.

The first prize in the "Concours des Voitures sans Chevaux" which consisted of the run from Paris to Rouen, was divided between the firms of Peugeot and Panhard et Levassor. The latter firm had run four cars, which represented the result of years of research. They were fitted with the Daimler engine, which, invented by the famous German engineer, had first been applied to the motor car by Messieurs Panhard et Levassor. This engine had two cylinders, arranged in a narrow V, at an angle of 15° to each other. In the case of two of the cars the engine had a bore and stroke of 75 by 120 mm., giving a capacity of 1,058 c.c.; while the other two cars, which were driven by MM. Panhard and Levassor themselves, had engines of a more recent type, with a bore and stroke of 75 by 140 mm. (1,235 c.c.). What was then regarded as the outstanding feature of the Daimler engine was the phenomenal speed at which it ran; it developed 3½ h.p. at no less than 750 r.p.m.

At first sight it is striking that when the internal combustion engine as applied to a vehicle first appears in history it should have been so small. The power developed, however, was presumably considered ample, although by the time it was delivered at the road wheels it could not have replaced very many horses. Nevertheless, the cars fitted with it averaged about 10 m.p.h. for the 80 miles, which by horse-drawn standards was good going. What is in reality more surprising is the bore-stroke ratio. It is very curious that this high-speed engine should have been given such a long stroke. The piston speed was undoubtedly phenomenal compared with that of the contemporary Benz engine, which, although it only ran at 300 r.p.m., was a "square" single, with a bore and stroke of 110 mms.

### Engine Details.

But to return to our Panhard. The connecting rods of the two pistons had their big ends on the same throw of the crankshaft, the webs of which acted as flywheels. The inlet valves were situated in the head and were suction operated. The exhaust valves, immediately below them, were operated by rods, the lower ends of which ran alternatively in two grooves cut in one of the flywheels. One of these grooves was concentric with the crankshaft, and the rod when running in it, missed the tappet of the exhaust valve. At the end of the revolution, however, the rod passed into the second, and eccentric groove by which it was lifted sufficiently to hit the tappet.

Such things as two-to-one wheels and camshafts are NOT essentials of a poppet valve engine!

A centrifugal governor, once the engine exceeded a certain speed, operated on a lever, which bore against the exhaust valve operating rods and caused them to miss the valves. On three of the cars the carburettors were of the surface type, as patented by Gottlieb Daimler himself in 1885,in which a float kept the petrol at the correct level at the bottom of a chimney, down which the air rushed, bubbled through the petrol and into the induction pipe. Levassor's car, however, had a jet carburettor, patented by Daimler's great collaborator, Wilhelm Maybach.

In the case of all the cars ignition was by means of platinum tubes, of which the open ends were screwed into the cylinder, and the closed ends were heated by petrol burners. On each compression stroke gas was forced into these tubes and ignited on reaching their red-hot ends.

### The Chassis.

From the engine the drive was through a double cone clutch to the change speed gear—hardly a gear-box, for it was not enclosed—but which worked on the sliding pinion principle, which is not yet quite dead. Behind this gearing was a bevel gear driving a countershaft, final drive being by side chains to the large back wheels, which were shod with iron tyres. The front wheels were smaller, had solid rubber tyres, and were steered on the Ackerman principle, controlled by a single-grip tiller. Drums on the back wheels carried brake bands operated by a pedal, while a lever worked spoon brakes on the back tyres. The cars were slung on semi-elliptic springs all round, and the engines were cooled by water, which, however, passed through no form of radiator.

Famous Panhard et Levassor of 1894, you sound a bit crude to the modern critic, but you are fully recognisable as the ancestor of the motor car of to-day!

### 1904.

The curtain falls, and is again rung up, ten years later. The racing car of 1904 is the 80 h.p. Richard Brasier, which, with Léon Théry as its driver, won the Gordon Bennett race in Germany. Alas! I have met enthusiastic motorists of to-day who have never heard of the marque—sic transit! I must confess that I do not know myself what has become of the Chaigneau-Brasier which carried on one-half of the tradition. But I am convinced that everyone of my readers has travelled in a Georges Richard though, low be it spoken, they only realised that it was a Unic taxi-cab!

That, however, is by the way. Our racer of 1904 was rated at 80 h.p., or nearly 23 times as much as the 1894 Panhard et Levassor. In those ten years the power of the most successful racing car had advanced as follows:—1895, 4 h.p.; 1896, 8 h.p.; 1897, 6 h.p.; 1898, 8 h.p.; 1899, 16 h.p.; 1900, 24 h.p.; 1901, 60 h.p.; 1902, 16 h.p.; 1903, 70 h.p. The result had been achieved largely by increasing the size of the engine. The Richard-Brasier, in the first place, had four cylinders instead of two, the increase in the number having been introduced successfully in 1898. Since then, by slow degrees, the size of the cylinders had been increased until our Richard-Brasier had a bore and stroke of 150 by 140 mm. (9,896 c.c.). One may note in passing that engine speed had by now been pushed up to about 1,500 r.p.m., and the stroke remained the same as in the Daimler-Panhard engine of 1904, while the bore had been doubled. The power developed was about 110 h.p.

Both the inlet and the exhaust valves were now mechanically operated, although the automatic inlet valve had not disappeared even from racing cars in 1904, and were placed at the side of the vertical cylinders. There was an ordinary camshaft, taking the place of all that ingenuity of grooves in the flywheel. The engine was still fitted with a centrifugal governor, but the carburettor, of course, was of the jet type. Most important change of all, perhaps, as far as the engine was concerned, ignition was now by means of a magneto — or a "magneto-electric machine" as it might still have been called without undue pedantry. It was only since the turn of the century that the accumulator and coil form of electric ignition had really ousted the platinum tube from popular favour, although Benz had used the former since the earliest times. In 1900 Panhard et Levassor had used electric ignition on their racing cars for the first time, but still kept the old-fashioned well-proved burners and tubes as a stand-by. It was only in this year 1904 that the coil was being generally abandoned on racing cars, although Mors racers had been fitted with low-tension magnetos since the early days of 1897.

### Chassis Changes.

From the engine, which was where M. Levassor had originally placed it, at the front of the chassis, the drive was still through a leather cone clutch, which, however, was now fitted with locking pins to stand up to the tremendous torque of 80 h.p. In its essentials the gearbox was unchanged from M. Levassor's original design, although it was now enclosed in an actual "box." The Richard-Brasier of 1904 had three speeds; in 1894 two of the Panhards also had three, the others four.

Behind the gearbox was still a countershaft, with final drive by side chains, still generally considered essential for a powerful racing car. The wheels were now of equal sizes, and, all-important change, shod with pneumatic tyres. Not for nothing had the Michelin brothers, picking their way to avoid sharp stones, driven their car, equipped with the lunatic new invention, in the race from Paris to Bordeaux in 1895. A couple of years

*FORTY YEARS—continued.*

later pneumatic tyres had become an essential of anything which laid claim to being a fast car.

Steering was still on the same principle, but Théry gripped a wheel where Levassor had clung to a tiller. It was the death of the latter in 1897, as a result of an accident the year before, when the tiller of his car had been wrenched from his hands, which had sounded the death-knell of this form of steering. The brakes were still on drums on the back wheels in 1904, but the old tyre brakes, of course, had gone. Springs, still semi-elliptic, but now, as a great innovation, controlled by shock-absorbers. The idea had been first applied to racing cars by Mors in 1902, but it had not been generally adopted, and much of the success of the Richard-Brasier may be ascribed to this feature.

Finally, the cooling water for the engine now passed through a gilled-tube radiator. It was in 1897 that the Panhard et Levassors had first featured this fitting, but then it was hung below the body at the back of the car. Now it was fitted in the " conventional " position at the front.

The Richard-Brasier of 1904, which was capable of about 90 m.p.h., certainly displayed many advances on the Panhard et Levassor of 1894. What would the next decade bring forth ?

### Another Ten Years.

In 1914 the French Grand Prix at Lyons, then *the* race of the year, was won by a Mercédès. It is not this car which I propose now to describe, however, for the Peugeot which fought with it so epic a battle, was in the light of later knowledge, in many ways more advanced in design. The Peugeot's engine was still a 4-cylinder, but the rules for the race now limited its capacity to 4½ litres. Its dimensions, therefore, were 96 by 168 mm., and the capacity 4,464 c.c., or considerably less than half that of the Richard-Brasier. Observe, however, what has happened. The bore has been decreased from 150 to 92 mm., but the stroke has gone up from 140 to 168 mm. This, surely, is curious. When its size is limited the only way to increase the effective capacity of an engine (assuming that it can be perfectly filled with gas) is to increase the crankshaft speed, and incidentally piston speed, so that obviously, on the face of it, to ease this piston speed problem, you want a short stroke.

But in 1908 it was the bore only of the engines for the Grand Prix which had been limited. The same rule applied to the Coupe de l'Auto races of 1909, 1910 and 1911. In 1913 the Grand Prix had been run under a fuel consumption limit, which again tends towards long strokes. This feature of the 1914 engine was to some extent traditional.

In spite of it crankshaft speed had certainly gone up in the ten years. The Peugeot engine, as we have seen, was less than half the size of that of the Richard-Brasier, yet it developed almost exactly the same power, and this had been rendered possible by increasing its speed of rotation to 2,600 r.p.m.

Obviously the difficulty of filling the cylinders when the engine was runing at this prodigious speed had introduced all sorts of problems. Fiat, probably, had been the first to realise the desirability for a racing engine of a hemispherical cylinder head, and in 1905 the Italian engines were equipped with overhead valves at 45° to the vertical, operated by push-rods and rockers. In 1908 Bayard-Clément had improved on this by using an overhead camshaft. The Peugeot of 1914 had two overhead camshafts and four valves per cylinder, with the sparking plug in the centre of the cylinder head. The carburettor used may be said to show only minor changes. Ignition was now by a high-tension magneto instead of the low-tension machine, with the make-and-break in the cylinders as used on the Richard-Brasier.

### A Revolutionary Innovation.

The drive was from the engine and was still taken through a leather cone clutch to a gearbox, which, however, now gave four forward speeds. Behind it, however, was now a propeller shaft, open, with two universal joints. None of the Grand Prix cars in 1914 were still fitted with chain drive, but lest you should think that it had been discarded years before 110 h.p. was extracted from 4½ litres, it is as well to point out that as late as 1913 Mercédès had sent cars with final drive by side chains to the Automobile Club de l'Ouest's Grand Prix de France, at le Mans. By 1914, however, all the other racers, as well as the Peugeot, were adding unsprung weight to their back axles in the form of bevel gears and differentials. Springs, incidentally, were still semi-elliptic all round, and the shock absorbers used by Richard-Brasier had come to stay.

The Peugeot, however, contained an innovation of the utmost importance. The hand lever still operated brakes in drums on the back wheels, but the foot-operated brakes were now on the front ones. The idea was by no means new—it had been tried on touring cars, and notably the Argyll, considerably earlier. It was, however, the first appearance of four-wheel brakes on a serious racing car, and it was destined to cause a motoring revolution.

Finally, before we leave the Peugeot, let us note that its body was finished at the back in a full stream-lined tail, terminating in a blunt point. This question was becoming of importance, for the cars were capable of some 110 m.p.h.

### Ten Years Ago.

In considering the progress made during the ten years from 1914 to 1924, it is necessary to make allowances for the War, and to realise that after the Peugeot no new racing cars were built in Europe until 1919. In some ways, therefore, the changes of this period may be said to have come about in five, rather than ten years.

During this period the whole effort of designers of racing engines had been concentrated on volumetric efficiency. For the 1924 Grand Prix, which, like that of 1914 was run at Lyons, the limit of engine size was fixedat 2-litres. The engine of the winning Alfa-Romeo was thus less than half the size of the Peugeot, but in the intervening period the designer had amply proved that he could beat the framer of racing rules. In spite of its comparatively diminutive size the Alfa-Romeo engine developed 140 h.p., or considerably more than that of the Peugeot.

How had this been done ? With the static dimensions of his engine limited, the designer had had to study the dynamics of the question. In other words he had had to increase crankshaft speed. In order to do this he demanded light reciprocating parts, and had sought them by splitting up his power chambers. Although its total size was halved, the Alfa-Romeo had double the number of cylinders. Eight of them, arranged in line, had each a bore and stroke of 61 by 85 mms., giving a total capacity of 1,986 c.c. The valves, like those of the Peugeot, were inclined in the head, and operated by two overhead camshafts, which, however, were now driven by a vertical shaft instead of by a chain of gear wheels. Further study of cylinder heads had induced the designer to limit himself to two valves per cylinder. The sparking plugs, situated between them, were still fired by a single magneto.

The difficulty of completely filling the cylinders at really high engine speed, however, had called for revolutionary measures. From the earliest times the gas had been aspired with the help of atmospheric pressure. At the high engine speeds now sought after this pressure was found to be inadequate. Designers had decided to pump the gas in with a supercharger. The idea was not really new. Marc Birkigt had played with the idea on the Hispano-Suiza in 1912. Mercédès had already begun to use it on touring cars. Fiat had used it in the Grand Prix the year before, and it had proved a dangerous experiment. The Alfa-Romeo was among the first successful supercharged racing cars.

As a result of all this the engines attained no less a speed than 5,500 r.p.m.

### Chassis Immutability.

Design during the decade succeeding the birth of the Peugeot had concentrated on the engine, while chassis really showed only detail changes. In large measure, doubtless, this was due to the fact that in the gap of the war years, while motor cars were neglected, experiments continued to be made with aero-engines—the straight-eight, for instance, was perfected for use in the air.

The Alfa-Romeo's clutch was of the multiple disc type, instead of a leather cone, and the 4-speed gearbox was built up in unit with the engine. Unsprung weight, too, had again been increased by enclosing the propellor shaft in a torque tube, thus saving another universal joint. Springs were still semi-elliptic all round, and the brakes on all four wheels. The streamline tail, too, had been just slightly developed, except, incidentally, in the case of the car driven by Ascari, who preferred a stub tail in order to carry a spare wheel.

### The Final Picture.

And what of 1934 ? I do not propose to describe in detail last season's racing cars, which the majority of my readers probably know as well as, or better than I, bemused by thinking of the racing cars of long ago,

*(Continued on p. 104)*

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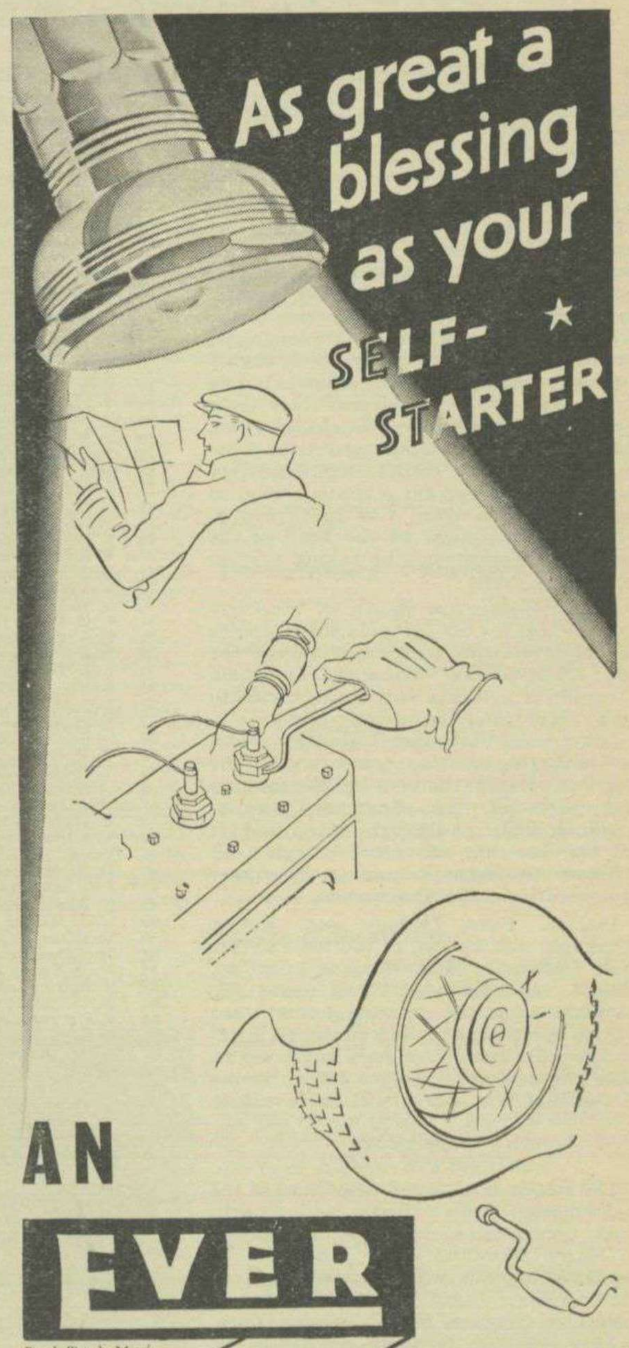
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# MONTE CARLO ENTRIES BELOW LAST YEAR'S FIGURES

## MANUFACTURERS NO LONGER FIGURING PROMINENTLY.

LAST-MINUTE entries are a traditional feature of the Monte Carlo Rally, and the latest and presumably final list brings the total number of cars up to 120. One hundred and forty-six entries were received last year, and the falling-off in numbers may be due partly to the sporting nature of the event being reduced by equalising the marks received by cars from Athens and those starting from the easier West European starting points. One of the most notable absentees is the firm of Hotchkiss, which usually sends cars from each of the four or five most highly marked starting points. After winning the premier award for the past three years no doubt Automobiles Hotchkiss think they have sufficiently proved their cars, and this year are contenting themselves with offering a cup for a similar series of three successive wins. Gas and Trevoux, whose names appear at the head of the list, will therefore not be taking part in this year's event.

Two Bugattis are shown in the early part of the list so far published, and it will be interesting to see if these are the new 3.3-litre cars. Wimille's car, which naturally is a Works entry, will certainly be a "3.3," and his present intention is to start from Stavanger. Another useful car from this starting point will be the Lagonda Rapide driven by the airman and hero of the England-Australia-England flight, Cathcart-Jones, and if the car does not prove too long for the "Figure of Eight" may easily figure prominently in the final results.

Pelham Burn (Riley) and Ridley (Triumph) will be two of the few starters from Palermo. Mrs. Wisdom is trying Athens, but otherwise Umea seems the favourite foreign starting point for British competitors. The promised team of Mercédès-Benz cars does not seem to have materialised, and so far only one of the B.M.W's. which will have a new interest for Rally "fans" now they are being introduced into England by the Fraser Nash concern.

1. Gas and Trevoux (Hotchkiss).
2. D. M. Healey (Triumph).
3. Rupert Riley (Riley).
4. H. E. Symons (M.G.).
5. S. C. H. Davis (Railton Terraplane).
6. M. Sontag (Ford).
7. Squad.-Leader Fullerton (Sunbeam).
8. J. A. Beeck Calkoen.
9. A. C. Scott (Bentley).
10. B. Neamfu (Ford).
11. G. Bakker Schut Voorburg (Ford).
12. J. F. J. M. Casparie (Pontiac).
14. P. Runciman (Alvis).
15. F. S. Barnes (Singer).
16. E. A. G. Cornelius (D.K.W.).
17. G. E. Scott (Bentley).
18. J. Lange (Auto Union Wanderer).
19. T. C. Griffiths (Riley).
20. F. Ribiero Ferriera (Railton Terraplane).
21. Jack Hobbs (Riley).
22. Major P. E. M. Douglas-Morris (Ford).
23. J. C. Ridley (Triumph).
24. V. E. Leverett (Triumph).
25. Stocelet and Bliss d'Orimont (Ford).
26. S. J. Jones (Morris).
27. P. Bertin (Bugatti).
28. O. J. Salovaara (Chevrolet).
29. R. Pelham Burn (Riley).
30. L. Westren Doll (Ford).
31. G. H. Wrede (Ford).
32. E. A. Denny (Riley).
33. Miss J. Astbury (Singer).
34. B. N. Wilmott and D. E. Calder (Rover).
35. Bon W. van Tuyll van Seroskerken (Ford).
36. J. O. Maury and H. J. Royer Collard (B.N.C.)
37. Mme. Mareuse and Mlle. Gonnot (Peugeot).
38. O. Enholm (Chevrolet).
39. W. Hedensjo (Ford).
40. G. de Lavalette and de Cortanze (Peugeot).
41. Carlsen and Knusten (Chevrolet).
42. Mme. Leblanc and Mlle. Hustinx (Peugeot).
43. W. Harney and F. A. Evans (Austin).
44. N. R. Farmer (Alvis).
45. Mrs. E. M. Wisdom (Chrysler).
46. Th. H. Wisdom (Chrysler).
47. T. G. Moore (A.C.).
48. J. Garnier and Ch. Nazzaro (Fiat).
49. W. T. Maidens and Dr. A. S. Wilson (Riley).
50. Sir R. Gunter (Mercédès-Benz).
51. Ch. Lahaye and R. Quatresous (Renault).
52. W. H. Vroom (Ford).
53. H. Battu (Hudson).
54. Bon J. J. C. Taets van Amerongen (Ford).
55. Miss I. Darre Brandt and Miss Christiansen(X).
56. R. Carriere and J. Vial (Peugeot).
57. Dr. M. Hanganutz and M. Sirlincan (Chrysler).
58. Miss M. D. Patten (Alvis).
59. H. L. G. Koopman (B.M.W.)
60. H. Th. van Marken (Talbot).
61. M. Contet (Peugeot).
62. L. Pascoe (Talbot).
63. P. E. Cousin (Buick).
64. A. M. Accarie and R. Gregoire (Renault).
65. Lt.-Col. A. Berlescu (Ford).
66. Lord P. Crichton Stuart (Alvis).
67. Dr. A. Cappelli (Fiat).
68. N. Black (Singer).
69. D. E. Harris (Singer).
70. R. Guyot (Renault).
71. J. van der Heyden and G. Uyt den Bogaerdt (Studebaker).
72. W. M. Coffey (Bean).
73. J. W. Whalley (Ford).
74. R. P. Gardner (Singer).
75. R. Husen and H. Larsen (Fiat).
76. H. B. Browning (Graham).
77. M. Gauthier and J. Cyrano (Studebaker).
78. Mme. M. J. Marinovitch and Mlle. Lamberjack (Ford).
79. R. Grant Ferris (Bentley).
80. O. Cathcart-Jones (Lagonda).
81. G. Descollas (Bugatti).
82. B. Jakobson and E. Kansky (Amilcar).
83. C. L. Sanders (S.S. Swallow).
84. E. von Knorring (Ford).
85. J. de Gavardie and R. Biolay (Amilcar).
86. J. de Clercq (Graham).
87. J. U. C. Bedrich Arkenberg (Tatra).
88. M. Fichet and O. Faik (Rosengart).
89. V. Azpilicueta (Delage).
90. W. Zweerts de Jong (Swallow).
91. R. J. Morton (Morris).
92. P. Vallee-Lasne (Renault).
93. Jhr. M. R. van Lennep (Triumph).
94. Mrs. M. J. Cotton (M.G.).
95. M. Pinsolle (Renault).
96. Dr. L. Billon (Renault).
97. C. Balester (Hudson).
98. M. Weisz (Ford).
99. S. H. Light (S.S.).
100. P. W. Makinson (Lagonda).
101. H. W. Hillegaart (Adler).
102. J. P. Wimille-Leygonie (Bugatti).
103. Mmes. Rouault and Thibault (Delahaye).
104. Rouxel-Quinlin (Peugeot).
105. Mme. G. F. D. Junkers (Chrysler-Plymouth).
106. F. Giunta (Ford).
107. E. D. Lee and Ch. Lewin (M.G.).
108. A. Sebag Montefiore (A.F.N.).
109. Miss M. Anderson (Riley).
110. Ch. Duruy and A. Bouchez (Renault).
111. R. Bravard (Hudson).
112. Cte. de Zassetzky (Graham).
113. Miss M. Allan (A.C.).
114. P. F. M. Kessels (Hillman).
115. Dr. M. T. Minshall (Singer).
116. J. T. Fermont and J. B. Tissot (Mercédès-Benz).
117. G. J. W. Zehuisen (Wolseley).
118. Cne. Ch. Polis-Homberg (Ford).
119. N. Fissette-Tielens (Ford).
120. J. Nowak (Ford).
121. Mlle. S. des Forest and Mme Siko (Triumph).

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## NEWS ABOUT THE R.A.C. RALLY.

The Regulations are now to hand of the forthcoming R.A.C. Rally and Coachwork Competition, which is to be held on March 26th-30th next. They can be obtained, together with entry forms, from the Secretary, R.A.C., Pall Mall, London, S.W. 1, or from any R.A.C. Branch Office.

This year the finishing point will be Eastbourne. On arrival the competing cars will be parked in the Corporation Coach Station and Prince's Park, while the Rally Headquarters will be situated at the Grand Hotel.

As usual, the route to be covered will be approximately 1,000 miles in length from each of the nine starting points. Below we give the intermediate controls on the routes :—

**Buxton** (start). Newcastle-on-Tyne, Llandudno, Tenby, Skegness, Eastbourne.

**Edinburgh** (start). Harrogate, King's Lynn, Llandudno, Tenby, Eastbourne.

**Harrogate** (start). Edinburgh, Scarborough, Llandudno, Tenby, Eastbourne.

**Leamington** (start). Newcastle-on-Tyne, Llandudno, Tenby, King's Lynn, Eastbourne.

**Liverpool** (start). Newcastle-on-Tyne, Skegness, Llandudno, Tenby, Eastbourne.

**Llandrindod Wells** (start), King's Lynn, Scarborough, Llandudno, Tenby, Eastbourne.

**London** (start). Truro, Leamington, Llandudno, King's Lynn, Eastbourne.

**Torquay** (start). Leamington, Scarborough, Llandudno, Tenby, Eastbourne.

**Great Yarmouth** (start). Cheltenham, Skegness, Llandudno, Tenby, Eastbourne.

Certain points will be noticed on studying the above routes. First of all there is plenty of cross country work to be done, demanding good map reading. Then, it will be seen that all the competitors, with the exception of those starting from London, will have to cover the road between Llandudno and Tenby, i.e., from the extreme north to the extreme south of hilly Wales.

In the usual way competitors can choose their own starting point, with the proviso that only 100 cars will be accepted for each starting control. It is worth noting that there were 326 entrants in 1932, 353 in 1933, and the maximum 400 in 1934.

A new rule to be observed is that in the Road Section there will be one class only, all cars having to average 26 m.p.h. for the whole distance. There is on specified schedule between the controls and competitors therefore have the chance to make up time and earn a rest. Every car must carry at least two drivers, one of whom must not drive for more than seven hundred miles of the journey.

Having spent two days and two nights on the road, the competitors will arrive at Eastbourne during the morning of March 29th. The cars will be immediately examined for damage and breakages, and marks will be deducted accordingly. Then they will be left in the open until the following morning, the only coverings allowed being those carried on the car on the Road Section.

The next morning, Friday, the cars have to be started from cold and moved away within 5 minutes to take part in the Eliminating Tests. To prevent special tuning and preparation the nature of the tests will not be revealed until the Competitors arrive at Eastbourne. For the Eliminating Tests the cars will be divided in four classes, according to their horse-power, with further subdivisions for open and closed cars.

# Continental Notes and News

By

HAROLD NOCKOLDS.

### Mystery Man.

DURING the winter months one can only write about the plans of drivers with extreme caution. After a spate of reports and counter-reports it is finally announced that So-and-So has signed a contract with Such-and-Such a Stable. Splendid! we say, and a paragraph to that effect is immediately dispatched to the printer. The day after the paper has gone to press, however, one learns that So-and-So has changed his mind, and will be an independent in 1935!

Last year Nuvolari was the star performer at this game. He was reported to be joining every manufacturer and stable imaginable, and journalists all over Europe were fully occupied in contradicting previous statements. But this winter he has been joined by others, and the man who is exciting equal speculation at the moment is Achille Varzi. At first it was somehow taken for granted that he would renew his contract with Ferrari, and this came to be regarded as an accomplished fact, partly because he had not been seen driving other cars while practising for races, like Chiron, Stuck and Nuvolari.

A statement from Ferrari, however, revealed that Varzi has not so far signed on the dotted line. His value as a team No. 1 driver is unquestioned, but the possibility of Nuvolari returning to the Modena stable may have jeopardised the negotiations. The two men are known to find it difficult to co-operate with each other, and neither would care to play second fiddle.

At the time of writing (an essential phrase, that!) it looks as though neither of them will race for Ferrari next year. Nuvolari, after getting to the last point of negotiation, has resorted to his independent status once more, while Varzi is carrying on an interesting discussion with Auto-Union. He would be a tremendous acquisition for the German team, in which Stuck has so far been the only really first-class driver. His nationality should not be an obstacle, for Fagioli has "renewed" with Mercédès-Benz.

The latest news is that he has been given an official reception by the Auto-Union people at Chemnitz, afterwards driving an Auto-Union for several laps of the Avus Circuit. Ricordi accompanied Varzi to Chemnitz, and they were received by all the big noises of the factory, Herren Porsche, Walb, Woelter and Oertzer.

### Ferrari News.

Apart from the at present undetermined "No. 1," the following drivers will definitely race under Ferrari colours next season: Louis Chiron, René Dreyfus, Antonio Brivio, Felice Trossi, and Gianfranco Comotti. Their careers are rather interesting. Chiron is the veteran of the team, having raced regularly since 1925. His first success was actually in 1924, when he made fastest time of the day at the Barbonnet hill-climb, and his first victory in a big race was in 1926, at Comminges. Dreyfus has been racing since 1928, his record in that year consisting of 1st place in the 1,500 classes of the Circuit of Cannes and in the Circuit of Garoupe, 5th in the Targa Florio, and fastest 1,500 c.c. time at the Val de Cuech and Platrières hill-climb. His first big victory was at Dieppe in 1929.

Count Trossi entered for a couple of hill-climbs in 1931, but did not get down to it seriously until 1933, when he was 5th at Monaco, 2nd at Alessandria, 1st at Pescara in the Targa Abruzzo, 2nd at the Stelvio, 1st at Monteceneri, Pontedecimo-Giovi, and Gaisberg, and won the Circuit of Florence. Brivio started in 1932, making a brilliant start by finishing 2nd in the Mille Miglia, while Comotti began his racing career a year earlier with three hill climbs and 1st place in the 1,100 c.c. class at Alessandria.

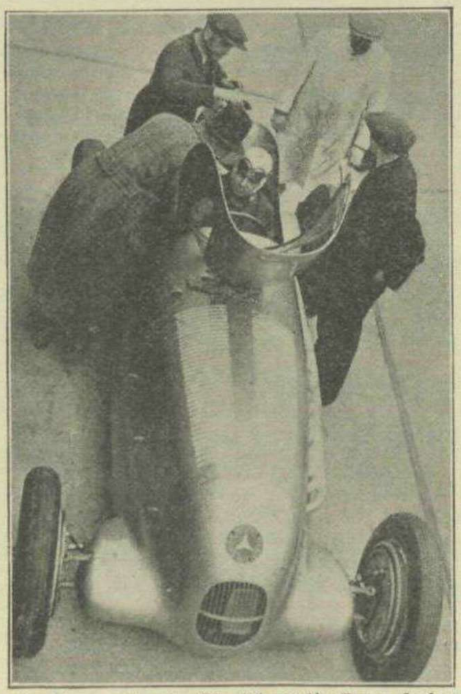
By the way, how many people know that Signor Enzo Ferrari himself used to race? He won the 1,500 c.c. class in the Circuit of Modena in both 1927 and 1928.

### Rally Cars at Montlhéry.

On the track in front of the pits at Montlhéry several cars could be seen lately performing the most extraordinary evolutions. Closer examination revealed them to be entrants for the Monte Carlo Rally, practising for the final tests which play such an important part in deciding the final placings.

### Representing Maserati.

Following the example of Alfa-Romeo, who are officially represented by the Scuderia Ferrari, the Maserati factory will this year entrust its racing activities to the Scuderia Sub-Alpina. This stable was actually formed in 1933 by Count Della-Chiesa, the original drivers being Della Chiesa, Farina, Aymini, Dusio and Bona.



*R. Caracciola in his Mercédès-Benz before setting out on the Class C Record which was previously held by H. Hartz of America.*

This year the drivers nominated to date are Philippe Etancelin and "Freddie" Zehender, two experienced Maserati men. Farina will probably drive the small cars, as heretofore, and a very good job he will make of it, too. The cars so far available are eight in all: two 8-cylinders, two "sixes," one 1,500 c.c., one 1,100 c.c., and two "sports" models. These will be kept in tune by six mechanics, and a team of three lorries will transport the cars all over Europe.

I understand that two other drivers may join up later.

### The Dussenberg at Montlhéry.

Whitney Straight had to postpone his attempt on the World's Hour Record at Montlhéry, departing hurriedly by air to South Africa. He managed to put in a good many practice laps, however, and intends to return to Montlhéry after the East London race is over.

In his absence the Dussenberg has been driven a good deal by his friend, Prince Nicolas of Roumania. The Prince is planning an attack on certain world's and class records, and it is possible that the two drivers will combine in a long distance run early this year.

### Racing in Scandinavia.

Two big races are due to take place in Scandinavia during February. On the 10th the R.A.C. of Norway are going to hold a Grand Prix on the Lake of Bogstad. This race will be a "closed" event, open only to Norwegians, Swedes and Finns. It is intended to serve as a practice race for the Grand Prix of Sweden a week later, in which well-known drivers from all parts of Europe will compete.

Lake Bogstad is only a short distance from Oslo, so that the race should be well attended.

### "Carratsch" takes another Record.

After many trial runs and a great deal of preparation, Rudolf Caracciola succeeded in breaking the Class C record for 5 kilometres, previously held by Harry Hartz, on the Union 76 Special. His 3.9-litre Mercédès-Benz was fitted with the open body, and his speed was given as 193.85 m.p.h., an increase of 47 m.p.h. on the old figure. The advantages of independent springing were tested to the full when a tyre burst on one run, but Caracciola retained control.

I understand that he will shortly attack Stuck's World's Hour Record.

### A Blow for Bugatti.

It is bad luck that Bugatti should be deprived of so valuable an ally in the veteran driver Constantini, who has for several years directed the racing side of the Molsheim factory. It appears that

*CONTINENTAL NOTES—continued.*

Constantini is feeling the need of a rest, and will therefore resign his position, which is in the nature of an honorary one.

### The French National Fund.

The committees appointed by the F.N.C.A.F. to deal with the National Fund for the Assistance of Racing Car Constructors have made good headway. By mid-December the Fund had reached the total of £3,800, and subscriptions were still coming in well. During February there is going to be a National Day, when the general public can buy badges for their Cars and buttonholes.

Thirty manufacturers have been asked whether they contemplate racing during 1935, and of these, seven have so far replied in the negative. On the other hand Bugatti, Delage and Sefac have all written their intention of racing, with certain provisos. Delahaye say they are thinking of entering the game in 1936. There is a possibility of the French Talbot concern saying "Yes," I understand. How far this would affect the English sections of the S.T.D. combine it is difficult to say.

### A Record-Breaking Auto-Union.

With the object of collecting all the records within their power, the Auto Union factory has recently completed a modified version of the famous Grand Prix cars. It bears a carefully streamlined body, with the enclosed cockpit which is becoming general for record-breaking purposes. The car is to be taken to Gyon, near Budapest, in the near future, and an attack will be made on the standing start mile record which Caracciola took from the Auto-Union a month or so ago.

It will be most interesting to see the maximum speed recorded by this Auto Union. I should not be surprised if it exceeds 200 m.p.h. by a wide margin. Prince von Leiningen is going with Hans Stuck.

### Montlhéry Observatory.

The Linas-Montlhéry Auto drome is likely to have its own Meteorological Station shortly. The French Office National Météorologique, in collaboration with the Auto drome authorities, is going to erect an observatory there, attracted by the favourable situation of the Plateau de Saint Eutrope, on which the track is built.

Those embarking on a long-distance record attempt will find the station of great value.

### High Speed Trial Abandoned.

I am informed that the German 2,000 kilometre trial, scheduled to take place on July 6th and 7th, has been cancelled. This event achieved a certain degree of fame as a "blind" of the most lurid nature, hundreds of cars hurtling along unguarded roads in an incredible fashion.

### The Sefac.

Although the Sefac racing car could not be completed last year in time to take part in races, the French National Fund has given fresh hope that this interesting production will actually be seen in Grand Prix races this year. Several engines have been completed, and M. Emile Petit, the designer, anticipates the fruition of his plans this season.

### Women in the Tour of Italy.

In the first Tour of Italy, there was no special class for women—although Mme. Marcuse and Mlle. Simone Gonnot finished in a good position in the general classification. But that indefatigable sportswoman, Mlle. Hellé-Nice, has persuaded the organisers to include a special Ladies Class in the race next July.

It would be nice to see one of our own brilliant lady-drivers carry off this prize. What about it, Mrs. Wisdom, Miss Taylour, Miss Allen, Mrs. Petre, Miss Evans and Miss Astbury?

### 139 m.p.h. with 1,100 c.c.!

After an unsuccessful attempt, due to the timing apparatus failing to function correctly, the Italian driver Fourmanik, on a 4-cylinder 1,100 c.c. Maserati, has beaten the International Class G record for a flying kilometre. His speed was the phenomenal one of 139.143 m.p.h., subject to the usual confirmation. The car was carefully streamlined, with disc wheels and abundant cowling. The attempt was made on an autostrada at Florence.

The car is claimed to develop 152 h.p. at 6,700 r.p.m.

### Alfa-Romeo Activity.

The racing department of the huge Alfa-Romeo factory is working at full pressure on the Grand Prix cars for next season. The chassis has been decided upon, with its independent springing of all four wheels. Two engines are being constructed, a six and an eight, designed by different engineers, and the most powerful of the two will be used.

In stock-car racing Alfa-Romeos will be extremely powerful. 3-litre engines, as used in the Monoposto cars this year, are being fitted into chassis with independent springing, and a speed of 140 m.p.h. is expected. Teams will be entered for the Mille Miglia and Le Mans, for certain.

### The New Maserati.

The latest Maserati on the stocks at Bologna is a V8, of 4,400 c.c., with independent springing and a gear-box on the back-axle. The power-output arrived at is a mere 360 h.p., and Etancelin and Zehender will handle two of these cars at Monaco—all being well.

### Miramas to be Demolished?

There seems every possibility of the Miramas Autodrome, near Marseilles, being demolished before long. Nothing definite has been decided, but a meeting in January will be the critical point.

While one cannot fail to regret the disappearance of any motor-track, it must be admitted that Miramas has served no very useful purpose since its construction some dozen years ago. It is only slightly banked, and is consequently extremely hard on tyres. On the other hand a race there always attracts an enormous crowd.

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## CHEERS FOR "ANDY."

To have completed 25 years' service with the Wakefield Company was the occasion last month of much congratulation to E. J. Anderson, universally known —and liked—as "Andy."

As manager of the racing side of "Castrol," Anderson is almost a landmark, if he will pardon the term, at motoring functions of a sporting nature. He is the very essence of smiling good humour, and we join in the general good wishes for his continued happy association with Messrs. C. C. Wakefield & Co., Ltd.

## OBITUARY.

It is with deep regret that we have to record the death last month of a figure well known to all *habitués* of Brooklands Track, Mr. S. G. Cummings. Since the very construction of the track, Mr. Cummings has taken an active part in its organisation, and he was a regular competitor at Weybridge before the War. Recently he won the Veteran's Race at Brooklands for pre-War drivers, held round the Mountain Circuit.

Never recovering completely from the shock of his wife's death, about a year ago, Mr. Cummings has not been in his usual state of health for some months, and he died after a, happily, short illness.

To his relatives we offer our sincere condolences.

## B.R.D.C. AWARDS OF MERIT.

The road "star" of the B.R.D.C. has been awarded for the 1934 season to the Hon. Brian Lewis and C. J. P. Dodson, and the track "star" to F. W. Dixon. The method of scoring, unfortunately has several disadvantages, such as the rule that cars must complete the full distance, even though they may be flagged off in a good finishing position, as frequently occurs on the Continent. Another restriction which causes difficulties is that no marks are counted unless at least six cars start in B.A.R.C. and Donington races. Finally, the Donington Park Trophy of 100 miles has been given the same marking as an ordinary 5-lap affair.

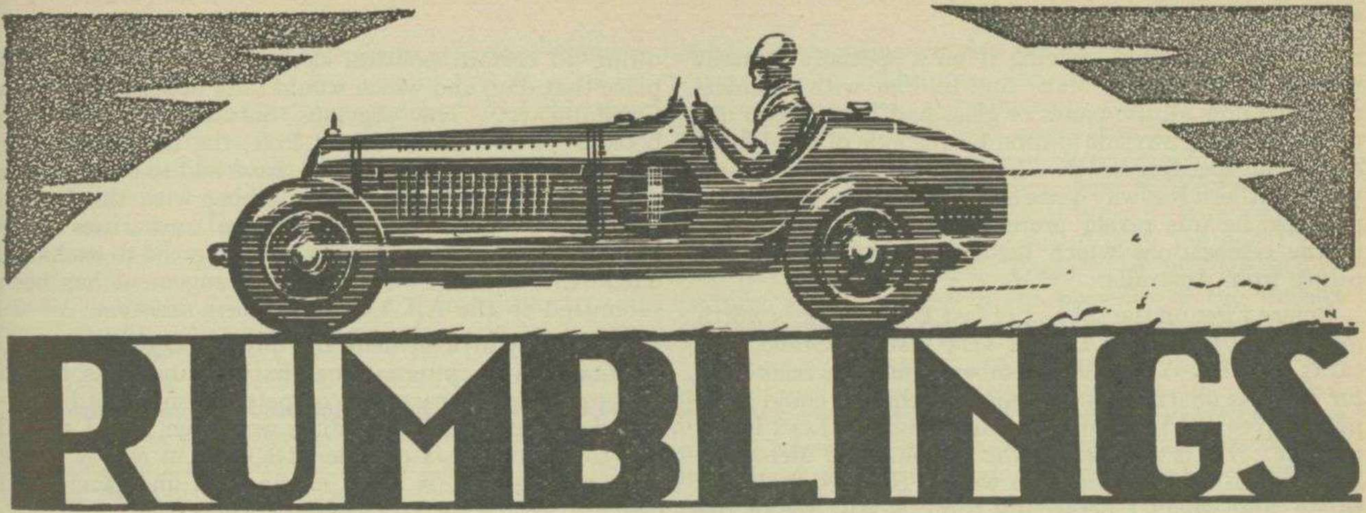
Using the B.R.D.C. formula, here is how the drivers were placed :—

### ROAD STAR.

| | | |
|---|---|---|
| Hon. Brian Lewis and C. J. P. Dodson ... | 29 | points |
| Whitney Straight ... ... ... ... ... | 28 | ,, |
| C. Paul ... ... ... ... ... ... | 23 | ,, |
| C. Penn Hughes ... ... ... ... ... | 22 | ,, |
| G. E. T. Eyston ... ... ... ... ... | 19 | ,, |
| Earl Howe ... ... ... ... ... | 18 | ,, |
| A. H. L. Eccles ... ... ... ... ... | 16 | ,, |
| T. E. Rose Richards and W. G. Everitt | 15 | ,, |
| J. S. Hindmarsh ... ... ... ... ... | 14 | ,, |
| C. E. C. Martin and A. von der Becke ... | 13 | ,, |
| F. W. Dixon and E. R. Hall ... ... | 11 | ,, |
| E. K. Rayson and K. S. Peacock ... | 10 | ,, |

### TRACK STAR.

| | | |
|---|---|---|
| F. W. Dixon ... ... ... ... | 18 | points |
| A. H. L. Eccles ... ... ... ... | 15 | ,, |
| O. H. J. Bertram ... ... ... ... | 14 | ,, |
| R. F. Oats and A. T. G. Gardner ... | 11 | ,, |
| Mrs. Petre ... ... ... ... ... | 9 | ,, |
| T. S. Fothringham, E. McClure and A. Von der Becke ... ... ... ... | 8 | ,, |
| J. D. Benjafield, J. R. Cobb, H. C. Dobbs and W. G. Everitt ... ... ... | 6 | ,, |



# RUMBLINGS

### In the Light Car World.

QUITE a number of people, I hear, are tuning their M.G's. to achieve colossal speeds next year, and R. T. Horton, who is nothing if not original, is boring out the Magnette which belonged to the late H. G. Hamilton to 1,500 c.c. The other single-seater he has sold to Major Gardner, who will be driving it in a variety of events next year. Tongue has bought Seaman's Magnette, which has distinguished itself on the Continent during the past season; while I understand that Horton's single-seater Midget, the first of his cars to have an off-set single-seater body, is going to America.

### European Sports Cars in the U.S.A.

There are a good many small English sports cars, such as M.G's. and Rileys in the Eastern States, and I read with interest the account of a 100 mile race held in a private park last November, and which was won by a hotted-up Willys "77" with an M.G. second, and a Riley third. Other cars entered were two American Austin Sevens, a Lancia fitted with a Ford V8 engine, and three Bugattis.

Strangely enough I received a letter only a fortnight ago from one of the Bugatti owners who wanted to know more about Brunet's Grand Prix "2·3," to which I referred some time ago in these pages, so he probably intends to give his fellow-drivers a big surprise at the next A.R.C.A. meeting.

### Four New Grand Prix Bugattis for England.

All my news this month pales beside the information I have been bursting to announce for the past two months, namely, that four of the new 3.3 litre Grand Prix Bugattis will come into English ownership in 1935, their purchasers being Lord Howe, Noel Rees, A. H. L. Eccles and Charles Martin. The Hon. Brian Lewis will again be Rees' driver, and Lord Howe and Mr. Rees will join forces for various English and Continental events, while Lord Howe's Maserati will make a useful reserve car.

The cars of Lord Howe and Mr. Rees will be kept and tuned at Molsheim, and will make their first appearance in the Monaco Grand Prix, and then will be driven in the Brooklands International Trophy race. Noel Rees has bagged the Mannin Moar race two years in succession, and is naturally keen to bring off the hat-trick, while Lord Howe will probably concentrate more on foreign events, but will be joined by Lewis from time to time. Eccles and Martin have not yet settled their plans, but I believe Eccles will confine his racing mostly to events in this country.

### 185 m.p.h.

Monsieur Jean Bugatti, the popular son of "Monsieur le Patron," was deputising for his father at the Bugatti Owner's Dinner last month, so I was able to get a little supplementary information about the cars. The engine design does not permit of the capacity being raised above the present figure of 3.3 litres, but its efficiency has been improved until the speed of the car is little slower than that of the German projectiles, the maximum being something in the neighbourhood of 185 m.p.h.

Even at this speed the orthodox springing works perfectly satisfactorily, and Monsieur Bugatti attributes this largely to the De Ram hydraulic shock-absorbers, which have already been referred to in these pages more than once; but as a set costs about £140 they are not liable to come into general use yet awhile. Mr. Rees told me, incidentally, that when he was at Molsheim he was invited to try the racing car round the test circuit, being assured that it was just as comfortable and easy to drive as the new 3.3 "Aerodynamique" coupé which he has just bought.

Nine of the racing cars have been built this year. Four of these are going to their English owners, and four more will be built to replace them; but I was rather surprised to learn that no more will be available for private owners, which will come as a disappointment to the numerous French and Italian drivers who are searching round for mounts for next season. The official drivers are Wimille, Taruffi and Benoist.

If the Bugatti concern receive the racing car subsidy at present being collected in France, they may possibly set about building a racing car more advanced than the "3.3," but it won't be ready until 1936.

### The Rail Record.

Though he has never been seen at the wheel of the Bugatti racing cars, Jean finds an outlet for his love of speed by piloting the firm's very swift rail-coaches, and some time ago captured the World's Railway Speed

*RUMBLINGS—continued.*

record at 118 m.p.h., driving it on a specially straight stretch of line near Le Mans, and told me with considerable glee how all the panes of glass had been blown out of the roof of a wayside station by the gale of wind flung off by the speeding coach " I think we could speed up your Southern Railway quite a lot," said Jean ; but then, perhaps, he was rather prejudiced by being mixed up in the celebrations which heralded Scott and Black's return from Australia.

Before I get off the subject of fast Bugattis, it is worth mentioning that Lord Howe's very fast 2.3 Grand Prix car is for sale. You will remember it put up a record lap for its class on 129.8 m.p.h., and " I think I could have put it up to 131 if I had been hard pressed," Lord Howe told me. He is also selling the famous blue Mercedes-Benz which has performed so well at Shelsley and elsewhere, and which I personally think is still one of the handsomest sports cars on the road.

### " Flying Frazer Nashes."

Turning to a purely English type of racing car, I hear that the " Terror," that famous four-cylinder car built by Capt. Frazer Nash and driven with distinction by R. J. G. Nash at Shelsley, has now passed from the hands of A. A. Arnold to Instone, a consistent Shelsley performer on the " G.N. Martyr." The " Spook," which R. J. G. Nash himself built up from the old " Slug " and sundry Frazer Nash parts, has also found a new owner in K. N. Hutchison, who will run it next year in the various spring events and hill-climbs.

Dick Nash is contemplating building another machine for next year, but is unable at present to find a suitable engine. He wants to obtain a 1½-litre unit which will give 160 h.p. and built up into a car weighing not over 10 cwt. Apart from the E.R.A. units, which are not for sale, the only possible motor would seem to be the 1,500 c.c. Zoller two-stroke, which is said to develop about 220 h.p., but not for long !

### Trials of the R.A.C.

The course for the Mannin Races has now been settled. The circuit will be the same as last year, but the run along the Promenade will be continued for a further two hundred yards past Broadway, and the cars will then negotiate an acute hairpin bend round a lamp-post and return on the other side of the road, turning sharp up Broadway to continue on over the 1934 circuit. The grandstand will overlook the hairpin, and as the pits will be placed off the road on the outside of the course a short distance before the hairpin is reached, the spectators will have a chance to see the cars at rest and in action.

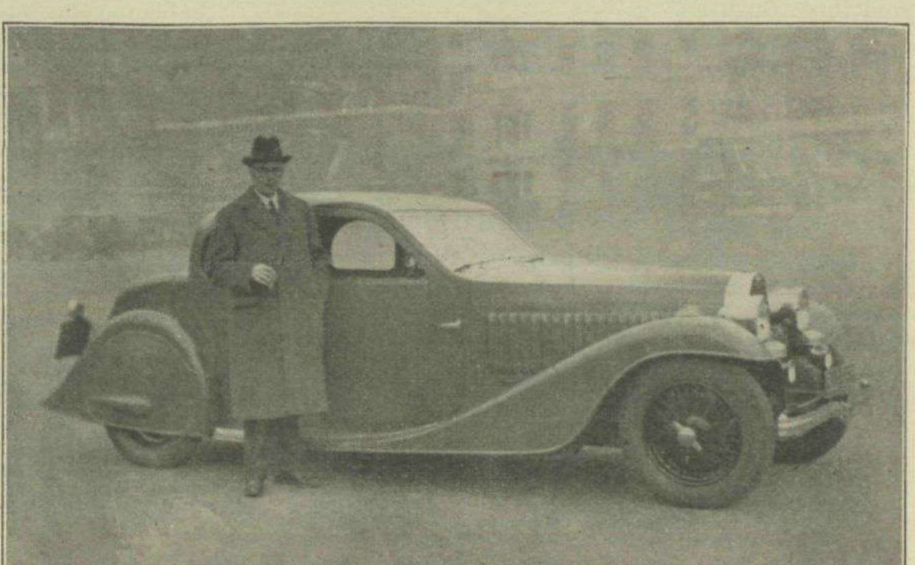
Unfortunately, just as things were fixed up satisfactorily in the Isle of Man, the Ulster authorities informed the R.A.C. that August 31st the date booked for the Tourist Trophy race, was quite unsuitable, owing to certain political demonstrations which take place that day, and which would fully occupy the Ulster Constabulary. The previous Saturday was already booked for the Ulster Grand Prix, the big motor-cycle race, so the unfortunate R.A.C. have had to change their date to September 8th, thus clashing with the Italian Grand Prix. However, the Italian authorities have been very sporting about it, and have agreed to exchange dates with the R.A.C., and this arrangement has been submitted to the A.I.A.C.R. for their sanction.

This happy arrangement has preserved Britain's only road-race as an international fixture, and it is hoped that some foreign cars will compete. I shall not be surprised if a team of Ballila Fiats were seen, and I should like to see those six-cylinder 2.3 Alfas in action. The race, by the way, is again confined to unsupercharged cars.

### Big Tyres.

With the Monte Carlo Rally close at hand Freeman and the other members of the Dunlop competitions staff are being kept busy with enquiries about the " Low-Pressure " tyres which were widely used on the Rally last year, and promise to be even more in favour in the forthcoming event. Healey was one of the first in this country to discover the virtues of the big cover, and two years ago fitted his Invicta with some of 7½-inch section, which with a 23-inch wheel gave a total diameter of 38 inches. They were so stiff that even when the tubes were totally deflated the rims did not touch the road. Last year he fitted his 10-h.p. Triumph with 9-inch tyres on 16-inch rims, and not only got through from Athens but was actually ninth in the Figure of Eight test, so these " Airwheels " cannot absorb nearly as much power as one would expect.

Raymond Mays has found them an equal success under the greatly opposed conditions of road-racing, their principal merits being the good grip they impart



*A SPORTSMAN'S CHOICE.—Mr. Noel Rees can justly be called a connoisseur of cars, for he has owned and driven a wide variety of makes and models. His latest joy is the 3·3-litre Bugatti, with an unusually attractive saloon body.*

*RUMBLINGS—continued.*

to the back wheels, a state of affairs otherwise difficult to obtain on such a light car as the E.R.A. without recourse to independent suspension; and another important property is their capacity for insulating the car and its driver from road shocks.

Mays at present uses tyres of 6-inch section on 16-inch wheels, and runs them at 22 lbs. for road-racing and right down to 16 to get adhesion on Shelsley. They have proved so successful during the past season that next year he is thinking of trying the 7½-inch size.

### Ten Years Ago.

Looking through some back numbers of MOTOR SPORT I was interested to come across an article by Louis Coatelen, at that time designer to the Sunbeam Company, on "Supercharging and the Sports Car." Even with superchargers noisy and inefficient as they were then, Mr. Coatelen saw a future for them on the small car as a means of getting good distribution and power low down, coupled with a useful output at moderate engine speeds, a state of affairs which is almost impossible to achieve with a small unsupercharged power-unit. The modern blower is efficient, quiet running and uses little or no oil, with consequent freedom from plug trouble, so I think it is about time some manufacturer produced a moderately priced small supercharged car. One of the things they would have to face is the idea that the supercharged car should have a much greater speed than its unblown prototype, but if the sporting public could be got to appreciate them rather for their "big-car" feeling at low speeds, the manufacturer's task would be much simplified. Another rather essential point for a popular supercharged car is that it should be capable of running on ordinary commercial leaded petrol. I hope to announce something of this sort in the near future.

Another hush-hush car which should be out in the next six months will have a large supercharged engine, an all-out speed of well over 100 m.p.h., and an 8 ft. 6 in. chassis which nips round corners before you know you've got there. Last time I uttered dark hints of this kind, the wretched car was stopped on the eve of production, so perhaps I oughtn't to have mentioned it!

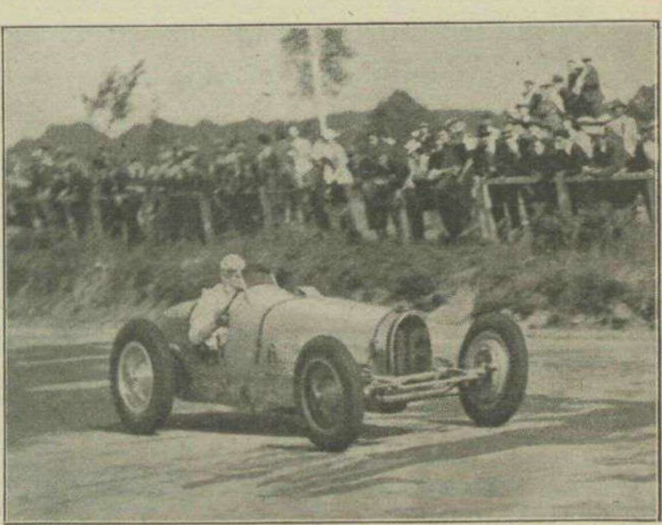
### Not so Thick.

Discussing the matter of winter starting the other day with one of the Essolube experts, I picked up a piece of useful information which deserves to be passed on. It appears that resistance to breaking down of a film of any of the range of oils from "Racer" to "30" is, in each case, amply strong to cope with the loads set up in any normal sports car, so that the only reason for using heavy oil is to prevent it becoming too thin and being rapidly used by disappearing in the various ways that oil does escape. Consequently for town work in winter you can safely go down from "50" to "30," which vastly improves starting, and can even use it in the country provided you don't mind the greater consumption. I expect this applies equally strongly to other brands of oil, but before you do make a change be sure you consult the advisory department of the company concerned. A few very expensive super-sports cars thrive only on a diet of Castrol R, so don't start using A.F. without asking "Andy" about it.

### Hush-Hush.

The last time I was down at Brooklands I watched silencer tests being carried out on a group of cars of various types. The idea was to find out what each maker considered a sufficient degree of silence, and one of the best of the sports cars I noticed was a small vehicle of not very distinguished ancestry. Leaving the Track and passing along to Weybridge my ears were assailed by an exhaust note quite remarkably offensive, made by a car identical with the one I had seen tested on the Track. Could it be that the manufacturer was as honest in the presence of the Belisha officials of his standard silencing arrangements?

As one would expect, in the case of English sports cars, a greater reading was shown on the recording instrument when the rear of the car was pointed towards it, but strangely enough some of the American cars made most noise when their radiators faced the "mike." All very mysterious.



*NEWS! NEWS! NEWS! Four of these 3·3-litre Bugattis have been purchased by British drivers, namely Lord Howe, Lindsay Eccles, Charles Martin and Brian Lewis, who will handle them in all our big races.*

### The Unlimited Class.

On the Continent England is regarded as the country of small cars, racing and otherwise, and it strikes me as rather remarkable that, in spite of that, for the past ten years the World's Land Speed Record has always been held by an Englishman, except when Eldridge captured it on the Fiat, on an English car. I now retract slightly—Keech held it for about eight months in 1928 on the three-engined White Triplex.

Next month Sir Malcolm Campbell is again setting off for America with the Blue Bird still further modified, in the hope of achieving the magic speed of 300 m.p.h. The greatest problem, he tells me, is that the beach is only ten miles long, which limits his run before crossing the line to 4½ miles. The tyres are so thin that he dare not use the full power of the engine to get up speed, but this year for the first time he us using twin rear tyres, which should help. The efficiency of the brakes will also be improved by fitting a vacuum-servo system, while the local Mayor has removed some of the supporting pillars from a pier near one extremity of the run to give him a clear run at the beginning.

*Continued on page 133.*

# "WEATHER FOR DUCKS"

## THE BALLILA FIAT SPORTS TRIED OUT UNDER DIFFICULT CONDITIONS.

*Brief Specification.*

*Engine: Four cylinders. Bore 65 mm. Stroke 75 mm. capacity 995 c.c. R.A.C. Rating 10.48 h.p. Push-rod operated overhead valves. Oil ignition. One down-draft Zenith carburettor.*

*Gear-box: Four speeds and reverse. Ratios, 4, 3, 5, 7, 8, 6 and 14.4 to 1. Synchro-mesh third and top gears. Central change.*

*Suspension: Half-elliptic springs back and front.*

*Brakes: Hydraulic, with hand brake on transmission.*

*Dimensions: Wheelbase 7 ft. 6½ in. Track, 3 ft. 10¾ in. Weight with two-seater sports body 12¾ cwts.*

*Price. £299.*

ONE of the features of the Italian Thousand Miles Race two years ago was the fine performance of the 995 c.c. Ballila Fiats, especially the one driven by Ambrosini and Menchetti, which actually covered the distance at an average speed of 55.33 m.p.h. and secured third place in its class. This car was fitted with the special Siata overhead valve gear, and a four-speed gear-box of the same make, and a car of this type secured third place in the 1,100 c.c. class again in 1934. For 1935 overhead valves and a four-speed gear-box are fitted as standard on the sports cars and the first of these attractive little machines to reach this country this year was shown at Olympia, and afterwards, driven by Froy and Wrench, engaged in a Thousand Miles Race of its own round the Brooklands Mountain circuit, and despite heavy rain on the first day covered the distance at the creditable speed of 55.11 m.p.h. After this performance it was used for giving trial runs, and was handed to us without any special preparation, so the makers cannot be accused of pampering it.

Heavy rain was falling as we arrived at Wembley to take over the car, but we were provided with the garments which experience has shown advisable with small open cars, namely a Sidcot suit, a waterproof, and a Drisleeve to wear on the outside arm. Thus equipped and with the hood in position, we felt ready for anything, noticing with satisfaction, incidentally, that both doors were provided with external positive locks in addition to the normal latches, which might conceivably be released by being touched by the occupants' clothing.

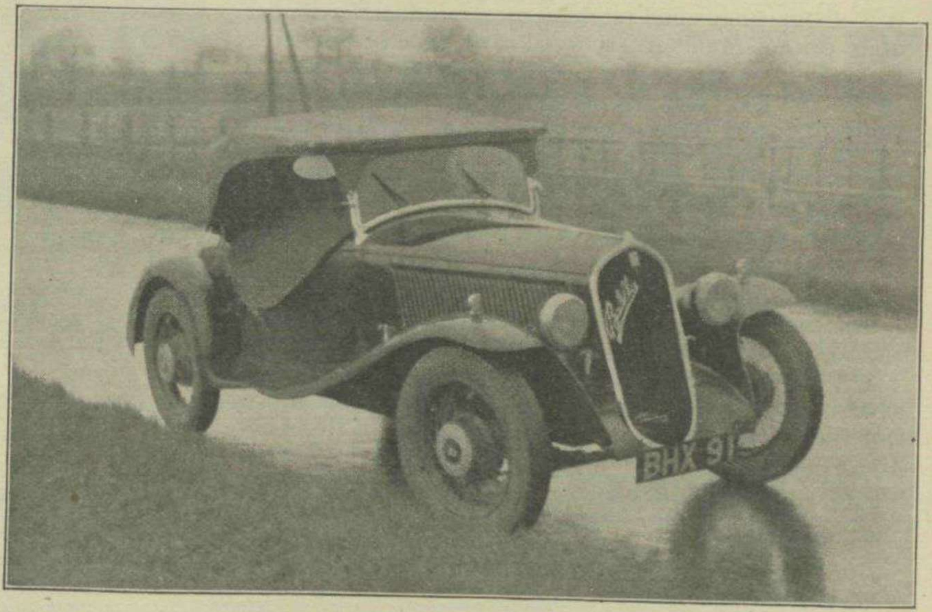
Our route to the open country led along the Harrow Road with its greasy surface and treacherous tramlines, and we were pleased to find that no special caution was needed to hold a straight path. Vision for overtaking was somewhat limited by the left-hand steering, which, of course, will be changed on cars intended for use in this country, but we soon found that, thanks to the accuracy of the steering and the easily handled gear-box, fast progress was made through the slow-moving lorry traffic and the open country was soon reached.

Weather conditions were unfavourable for reaching high speeds, so we took the car over a favourite test route abounding in fast bends and corners. Here we found the left-hand steering actually an advantage, for left-hand corners could be taken with tremendous zest within a foot of the kerb. In spite of the deluges the mud-guards kept the windscreen free from spray and with the twin-blade windscreen wiper in action we found ourselves soon driving as fast on the wet roads as we would have done on the dry. It was found, in fact, quite easy to keep up 55 m.p.h., which was about the safe limit on this particular road, though 65 was reached on the few straight stretches. Full acceleration in all the gears could be used, and even violent braking failed to provoke a skid. The effect was that of a light car hung between enormous and unskidable tyres, and we can scarcely recollect driving a car which gave us such confidence on wet roads. In the end we gave up the test and returned home with the conviction that nothing short of deliberate "broadsiding" would upset the Ballila's determination to remain on the road.

A short test we were able to make the next day over comparatively dry roads of even more winding character confirmed our impression of the Ballila's neatness in handling, and with full use of gears and brakes surprising averages can be set up in difficult country.

Such stability can only be attained on a chassis in which everything works together. The suspension is not harsh at low speeds, yet prevents roll or pitch on fast corners or all-out, and this in turn maintains the essential condition of keeping all four wheels on the road. The steering is light without back-lash, correctly geared for the size of the car and has a convenient caster-action. A good lock is a feature of most Fiats, and the car tested could be turned round in a 30 foot main-road without reversing.

The engine of the Ballila has much of the big car feeling which characterises the chassis and carries out its task with a pleasant absence of fuss, and has a useful reserve of power low down. It runs smoothly throughout its range and is mechanically quiet, but the exhaust note is rather hearty, and care has to be used when accelerating in towns on second gear. The clutch and gear-box add much to the enjoyment of driving, and the latter gives a quick and simple change between all the gears, with a synchro-mesh mechanism which further improves matters on third and top. The rev-counter was unfortunately not working, but the comfortable maximum speeds on second and third were 38 and 58 m.p.h.



*A very neat job. The elegant lines of the Fiat can be gauged from this three-quarter front view photograph.*

Conditions improved somewhat on the second day of the test, and we were able to try the car at Brooklands. A great deal of the track was up, but gaining the Member's Banking from the end of the Finishing Straight, we reached just 70 m.p.h. by the time we reached the Fork and had to slow down again, so the maximum speed over a flying lap, even without allowing for the strenuous life that this particular car had had, would be about 75 m.p.h.; the speedometer incidentally was 3 per cent. slow at 60 m.p.h. With the screen raised 68 m.p.h. can be reached. The braking figures were spoilt by the wetness of the concrete, but even so we stopped in 70 ft. from 40 m.p.h.

As may be gathered, there is virtually

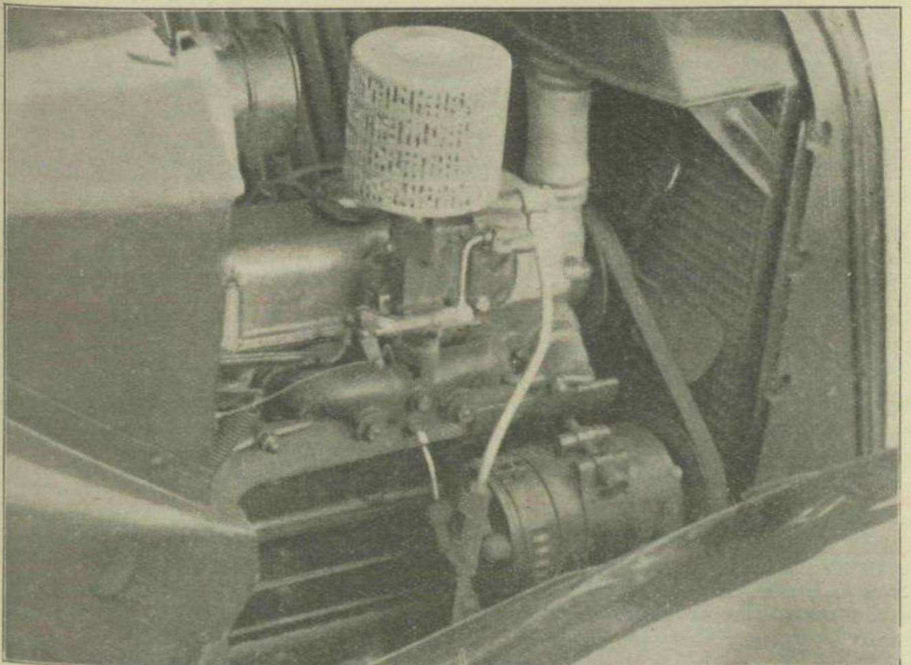
*THE BALLILA FIAT—continued.*

nothing to complain about in the chassis or the handling of the Fiat, and any criticisms are confined to the particular body fitted. In the first place, the windscreen in a low one, and with the hood erected, the writer found it necessary to stoop in order to see out properly, particularly as the wiper blades were too short to clean up to the top of the glass The driving seat is fixed, so it is not possible to move further back and so to lower the line of vision.

The hood itself is quite efficient, but it is difficult to erect for the driver alone.

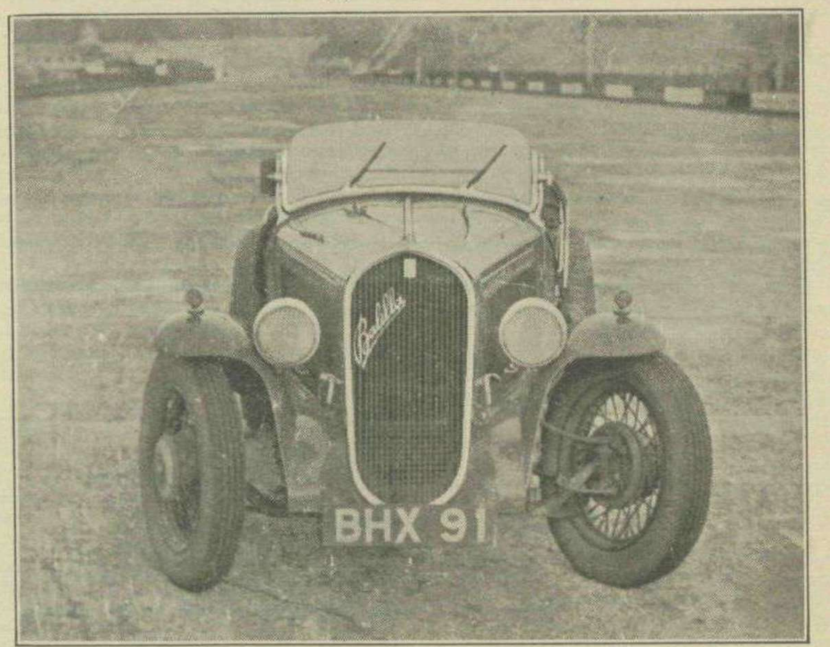
The sides of the body are much cutaway, and a good deal of water and mud are thrown out from the sides of the front wings to the driver's arms, but this trouble could easily be overcome by fitting canvas shields across the openings in bad weather. The headlights are weak, limiting the speed to about 45 m.p.h. even with the full beam, but no doubt these could be replaced by a more efficient type with English characteristics

None of these complaints are serious, and arise mostly through the result of a heavy-clothed six-foot driver, fitting himself into a body of semi-racing lines. In spite of the close fit, we liked it, for the controls all came to hand, there was sufficient room to reach the pedals, with a special foot well for the left foot when not resting on the clutch pedal, both wings were visible, and the steering—Ashby spring wheel, came nicely into the lap. An unusual feature, less needed on the Fiat than a good many cars, was a thin division between the two front seats to prevent the driver sliding sideways when the passenger's seat is unoccupied, and pads are on the sides of the body where the knees of the driver and passenger rest against them.



*The offside engine view of the Sports Ballila Fiat.*

The engine has vertical overhead valves, push-rod operated, and a sturdy three-bearing crank-shaft, and gives 36b. h.p. at 4,000 r.p.m. A single down-draft Zenith carburettor is used with the efficient "starter" attachment, supplied from the ten-gallon rear tank by an engine-driven petrol pump, while the coil ignition has automatic advance and retard, with a control knob to retard it for starting purposes. The constant voltage dynamo is belt driven and thermo-siphon cooling is used.



*The fine steering lock and the neat frontal appearance of the Sports Ballila can be appreciated from this photograph.*

The gear-box is in unit with the engine and has a synchro-mesh mechanism for third and top gears. A single-plate clutch is used, and the transmission follows the usual lines of open propeller shaft with two universal joints, and spiral bevel back axle.

The chassis is of channel pattern, with cross-bracing, half-elliptic springs are used all round, with friction shock-absorbers, and the brakes are hydraulically operated. The hand brake works on the transmission.

The two-seater body is attractive and very sporting in appearance, and the car we tried was finished with a dark-red body and lighter coloured wings. The seats are well padded, and in order to give the driver more freedom the passenger's seat is placed somewhat to the rear, with a foot rest. The facia board looked very practical, with its large Jaeger speedometer and rev-counter oil pressure and petrol gauges and the knobs for the choke starter and throttle controls, while the floor is covered with a thick rubber mat which should be hard wearing and draft-proof.

Behind the two seats comes the petrol tank, and then further back a large tail locker which is big enough to take two competition tyres, with room around them for coats, small suit-cases, and the like. The entire rear panel is carried on hinges at the front end and is supported in the open position by two struts. This form of construction has the advantages of simplicity and lightness, and makes the best use of the limited space available on a car of short wheel-base.

Fiat cars are handled in England by Fiat (England), Ltd., whose headquarters at Lancelot Road, Wembley, Middlesex, while the London Distributors are Messrs. Gordon Watney, 31, Brook St., London, W.1.

Altogether, the Ballila Sports offers something rather different in the small sports car world, with its comparatively slow-running engine, and its feeling of solidity on the road, and small-car "fans" should try it.

# PREPARING FOR THE MONTE CARLO RALLY

## SOME PROBLEMS WHICH CONFRONT THE SUB-ARCTIC MOTORIST.

By T. G. MOORE.

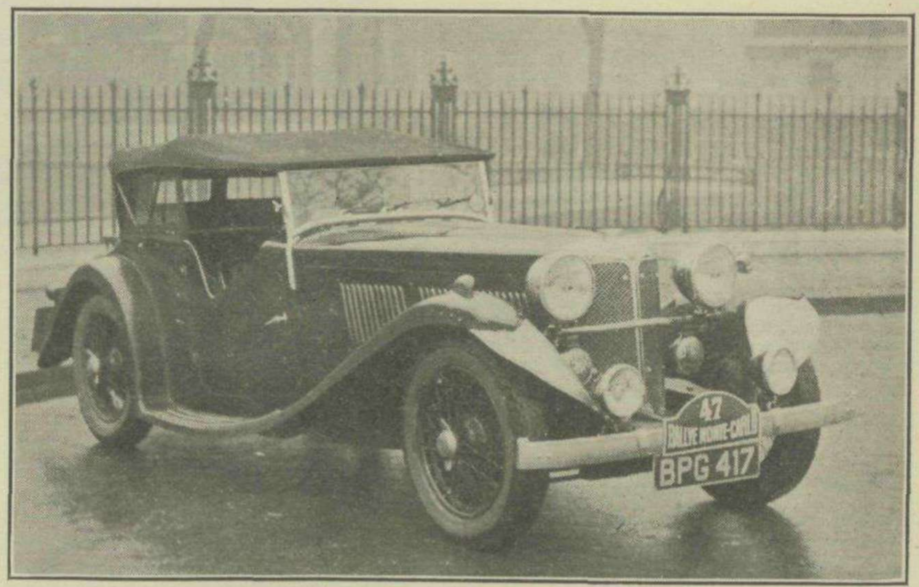
ONE of the great differences between rallies and all other forms of motor sport and one of their charms lies in the fact that in the former so much is left for better or worse to the choice of the individual. Shall he start from a distant control or a more civilised centre is it worth trying to get through with a semi-racing car or will he do just as well with a large-engined American saloon ; is a crew of two and consequently a light two-seater car feasible on the route he proposes to follow or must he take a crew of three or four so as to have a succession of drivers fresh enough to maintain the set average on ice-covered roads, through fog, and under the other conditions which are part and parcel of the Monte Carlo Rally ?

By equalising the marks for the six most difficult starting points, the Monte Carlo authorities have this year put Athens and Bucharest out of the question for all but the most adventurous, so one was left to choose from the four remaining ones—Palermo, Stavenger, Tallinn, or Umea. The first-named seemed to have possibilities, but it appears that sea-fogs often prevail on the southern part between Reggio and Naples, there is the crossing of the Apennines to be faced between Rome and Padua, and finally the Ljubljana-Vienna sector through the foothills of the Dolomites. On the Norwegian route the roads between Stavenger and Oslo are narrow, often in bad condition, and for most of the way cling precariously to the sides of precipitous cliffs. which sounds rather discouraging. I had already been over the Tallinn route on a previous Rally, or at least over all except the new section which branches off from Riga to include Kaunas, the capital of Lithuania. This slight change did not sound interesting enough to make it worth while again undertaking the journey from the Estonian starting point, so my choice, along with that of a large number of rallyists much more experienced than I, fell on Umea, that distant but apparently cheerful starting point in Northern Sweden only 200 miles from the Arctic Circle.

One of the paradoxes of the Rally is that the large and comfortable touring car or saloon, which is the car which any sensible person would choose under ordinary circumstances for Continental touring in winter, stands little chance of success in the figure-of-eight test which decides the final order, unless of course it is prepared as carefully as those very fine Hotchkiss cars which have three years in succession borne off the premier award, and this unfortunately none of our British manufacturers are prepared to do. I wondered at first whether it would be a good idea to choose a car of under 1½ litres, so as to be able to compete in the two classes, but decided finally that to carry a crew of three in comfort a rather larger vehicle was called for. The choice of cars of the type I wanted is rather limited, but remembering the easy running, good acceleration, powerful brakes and, not least important, the small turning-circle of the two-litre A.C. I had tried some time before, I decided that this was the car.

One of these cars driven by Miss Riddell and starting from Tallinn last year secured the Ladies' Cup, so Mr. William and Mr. Charles Hurlock, who control the destinies of the A.C. Company, readily consented to my taking one of their cars, and so the first and most difficult fence was surmounted.

Looking round the chassis, there seemed surprisingly few things calling for alteration. The six-cylinder engine, which has required little alteration during the ten years of its existence, with the latest type of pistons gives a speed of about 85 miles an hour on the level, and the acceleration of this 21-cwt car is consequently highly satisfactory. The gear-box permits of a remarkably quick change in all gears, so much so that we decided that it is hardly worth installing one of the self-changing pattern, which may be had on the latest A.C.s as an alternative. The ground-clearance is 8 ins., which should be ample on the main roads over which the Umea route passes, the chassis frame is underslung, and there are no projections underneath, while a pair of steel plates will be used to protect the engine in case of the car being ditched.



*The two-litre A.C. which is leaving Tilbury with its crew for Unea this week.*

Big tyres have proved their worth on former Rallies, if only because in many cases they make it unnecessary to use those irritating, if useful, components, snow chains. Unfortunately the 16 by 6 in. Dunlop low pressure tyres, which may be run at only 16 lbs. pressure, are so wide as seriously to restrict the lock, and as lock is essential for the figure-of-eight, they cannot be fitted. The standard tyre size is 19 by 5 in., which is liberal for a car weighing only 21 cwt., but it seems possible to fit 19 by 5½ in. tyres and to achieve a fair low-pressure effect. There is then of course the problem of whether there will be room enough for chains on top of these larger tyres, particularly when the wheels are locked to the right and the off-side tyre runs close to the steering link. What a life !

The Pneugrippa tyre cutting process seems to confer definite benefits on wet surfaces, so the tyres, whatever their size, will be treated in this way. If large tyres are used it will probably not be necessary to carry snow-chains, but ice chains, which I believe are now manufactured in this country by the Parsons Chains people, and which have small sharpened plates in addition to the chain links, are almost essential in case of a sudden thaw and re-freezing such as took place in Sweden when the Rally drivers were there three years ago.

Powerful headlamps are of course of the utmost importance on an event such as the Rally and a pair of the special Lucas long-range pattern, similar to those fitted to the 3½-litre Bentley, will be used. This type of lamp is fitted with the dip-and-switch mechanism, so that in Sweden, where the left-hand rule of the road is in force, they will be very convenient, while the ferry journey from Sweden to Denmark should give a chance of reversing the mechanism without losing time on the road. Two Lucas fog lamps of the hooded bulb pattern will be used, and of course a spot-lamp and the usual under-bonnet fittings, while an inspection lamp and some Ever-ready electric torches should facilitate wheel changing.

Keeping warm is of course one of the greatest problems, especially in open cars, which seem to be draughty no matter how well the side curtains fit. The Sidcot suit is one obvious solution, though it restricts the movements to some extent and one needs to make sure that a

*PREPARING FOR THE MONTE CARLO RALLY—continued.*

sufficiently large size is obtained to go over a heavy suit and numerous sweaters. An ingenious idea sponsored by Donald Healey is to wear an ordinary heavy leather or woollen overcoat for the top part of the body, while the legs and middle are swathed in a wrap-round rug which fastens round the legs like a pair of motor-cycle overalls. A third suggestion is to wear a heavy suit underneath, then an overall suit made of light Grenfell cloth, which is windproof, and finally a heavy coat on top of everything. Whatever the top garments I have found for the legs nothing better than a pair of S.Lewis's sheepskin flying boots, which have crepe rubber uppers, waterproof up to the ankle, while Sidcoat suits, heavy gloves and other warming garments can also be obtained from the same source.

We had hoped to install an exhaust heater in the rear of the car, but the position of the exhaust pipe unfortunately made this impossible. Since, however, a constant-voltage dynamo will be fitted it should be possible to use an electric heater for the daytime. To heat the windscreen, hot-air ducts will be led from the bonnet to ports in the scuttle, and the bonnet louvres will be blanked off. But if this proves insufficient to disperse the frost, an electric screen-heater will be used.

Suitably equipped, as we hope, the A.C. and its crew will ship from Tilbury in the first week in January, and sail direct to Gothenburg on the west coast of Sweden, completing the journey by driving up to Umea by easy stages. Starting from this point this year are amongst others Donald Healey on the supercharged Triumph Dolomite, and S. C. H. Davis with a Railton Terraplane, so Britain will be represented by at any rate two of its most lively cars, and following in the tracks they tread, like the page of King Wenceslas, we hope that one of them or some other of the British competitors bring back to Great Britain, after an absence of three years, the International Sporting Club Cup.

## VICTORY FOR WHITNEY STRAIGHT.

There is something of the "grand manner" about Whitney Straight that cannot fail to excite the whole-hearted admiration of everyone who values deeds, and not merely words. The latest achievement of this remarkable American is to pay a flying (literally !) visit to South Africa and collect first place in the first South African Grand Prix.

Sending one of his Maseratis, his young brother Michael's Railton-Terraplane, and R. J. B. Seaman's M.G. Magnette by sea, attended by a mechanic, he then proceeded by air in his own aeroplane to South Africa, bearing the two other drivers with him.

On arrival he found the whole of East London a-ferment with preparations for the great race. As described in our last issue, the Marine Drive Circuit measures 16 miles of beautifully surfaced road, and is extremely fast. Every effort to perfect the circuit was made by the local authorities, and £5,000 was expended on widening three bridges which might have been dangerous.

Naturally the race was run on handicap, in order to bring together on a level footing the various types of cars entered. Here is the full list of entries: Whitney Straight (Maserati), Michael Straight (Railton-Terraplane), R. T. Rohr (M.G. Midget), G. Collins (Willys Silverstreak), A. S. du Toit (Adler), D. Van Reit (Austin), V. Berrenge (D.K.W.), J. Whitehead (M.G. Midget), S. Mackenzie (Ford V8), R. J. B. Seaman (M.G. Magnette), D. A. Tullis (Talbot), L. Rosengana (Terraplane), J. Williamson (Frazer Nash), J. Haywood (Riley), W. Ross (Terraplane), N. Meyer (Austin 65), W. Case (Ford V8), R. T. Cochrane (Plymouth) and J. Petersen (Plymouth).

At the time of going to press only scant details of the race itself are available. Suffice it to say that Whitney Straight ran through the whole field from the scratch mark, taking the lead on the fifth of the six laps and easing up to win at 93 m.p.h. Second came one of the Fords, with Michael Straight making a most successful racing *début* in finishing third at 89 m.p.h.—a good deal faster than the Ford.

*RUMBLINGS—continued from page 129.*

**More Big Stuff.**

The best times for record-breaking on Daytona Beach are either at the end of January or the end of February, and Sir Malcolm will arrive for the second of these sessions. Dixon is working hard on the Silver Bullet, but does not expect to have it going before May or June.

Eyston is preparing a new large-engined car to attack long distance records on the Murok Salt Lake, in July of next year, and John Cobb will probably take over the Napier-Railton. What about sending "Ebby" over with them to fix up a handicap race for these two, the Blue Bird and the Silver Bullet at Daytona afterwards ?

**Snippets.**

Oxford are now finally and definitely adjudged the winners of the Inter-Varsity Trial.

Cheer up, owners of 2.3-litre Grand Prix Bugattis and Alfa-Romeos ! Next year you will probably find a special class for you at Brooklands, giving you a slight advantage over single-seaters such as the 3-litre Maserati.

Kay Don has been released from his unwelcome confinement in the Isle of Man on medical grounds. If fit enough next season he hopes to take up racing again.

Count Lurani, the well-known Italian motor sportsman, has undergone an operation on his knee. His friends in this country will wish him a speedy recovery.

Manfried Von Brauchitch, who is again to be a member of the Mercédès team, has completely recovered from the injury to his eye. He was present at the Avus track last month when his colleague Caracciola took the 5 kilometre record

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# THE 1934 RECORD BREAKING SEASON

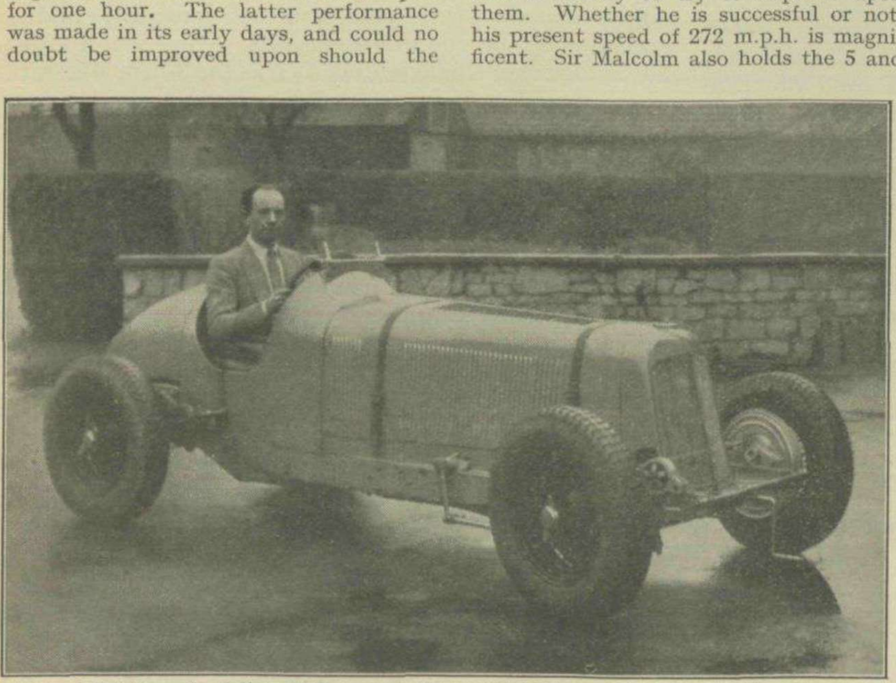
### AN ALL-ROUND IMPROVEMENT ON EXISTING FIGURES—OUTSTANDING ACHIEVEMENTS BY AUTO-UNION, MERCÉDÈS-BENZ AND PIERCE-ARROW.

RECORD-BREAKING has been as popular as ever during the past year. No less than 72 World's, and 95 International Class Records have fallen, certain figures being broken again and again during the season. Five records have actually been beaten four times! When held by manufacturers, records are objects of intense covetousness, with the result that they are immediately attacked again should a rival snatch them from their original owner.

**Many New World's Records.**

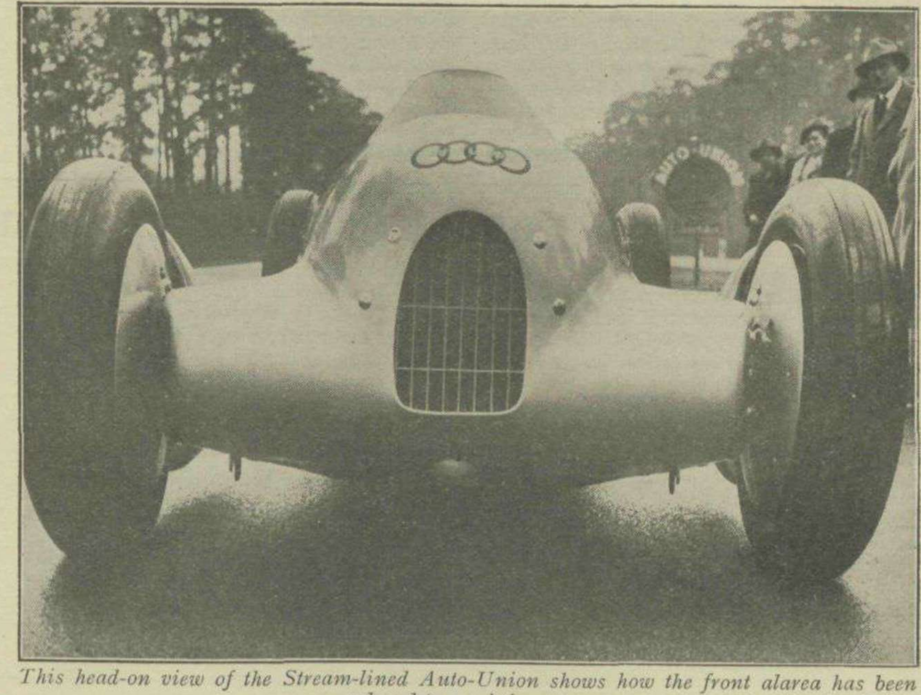
Comparing the present list of World's Records with that published in these pages a year ago, it will be seen that only 6 records (up to 2 days), remain unchanged. This is remarkable, and illustrates the tremendous development in motor-car speeds which has been characteristic of the last decade. The long-distance records held by Citroen, who established most of them, are not likely to be attacked for some time, because the expense of engaging time-keepers and hiring a track for three months on end is not to be undertaken lightly.

Examining the records in detail, the list starts with the amazing standing-start kilometre set up by Hans Stuck's Auto Union, at a speed of 101.56 m.p.h. A year ago this record was held by the gigantic Napier-Railton at 88.52 m.p.h.! The career of the Auto-Union has been a particularly fine one since its appearance last May, and in addition to the "acceleration record" over a kilometre, it also holds such marvellous figures as 152.17 m.p.h. for 100 kilometres and 134.90 m.p.h. for one hour. The latter performance was made in its early days, and could no doubt be improved upon should the necessity arise—as it undoubtedly will. The Standing Start mile record now stands to the credit of Caracciola's Mercédès-Benz, at 117.23 m.p.h. A year ago it was 102.52 m.p.h.



*For a brief time the 2-litre E.R.A. was the proud holder of the World's Standing-start kilometre record.*

The flying mile and kilometre records, the "fastest in the World," still stand to the credit of Sir Malcolm Campbell, who is shortly to try to improve upon them. Whether he is successful or not, his present speed of 272 m.p.h. is magnificent. Sir Malcolm also holds the 5 and 10 kilometres and the 5 miles, all at over 230 m.p.h. "Wizard" Smith clings to his solitary record, the 10 miles at 164.68 m.p.h., but both the Mercédès-Benz and Auto-Union G.P. cars could beat this easily on a suitable stretch of road or track.



*This head-on view of the Stream-lined Auto-Union shows how the front alarea has been reduced to a minimum.*

The longer distances, up to 24 hours, were subject to an extraordinary increase at the hands of that inveterate record-breaker "Ab" Jenkins, the Pierce-Arrow exponent. His car is officially called the Jenkin's Special, but in actual fact it is a standard 12-cylinder, 7½-litre Pierce-Arrow suitably modified for the job. Maintaining a steady 130 m.p.h., or so, on the Salt Beds at Utah, Jenkins made a clean sweep of 15 records, completing 24 hours at an average speed of 127.22 m.p.h. And he drove single-handed the whole time! G. E. T. Eyston, with the wonderful old Panhard et Levassor, has been handicapped by having to drive several yards above the measurement line at Montlhéry, which also affected the Napier-Railton.

The intermediate distances up to 48 hours were keenly contested by three French manufacturers. First of all Hotchkiss improved on the Alfa Romeo records with a 48 hours speed of 95.36 m.p.h. This was quickly beaten by Renault, at 104.05 m.p.h., until Delehaye finally came along with a splendid 109.54 m.p.h., to take the record "for keeps." The next batch, up to 7 days, still belong to the Voisin, which has held them since 1929. But from 8 to 12 days were annexed last April by an Austin Twenty, prepared by César Marchand for the Yacco Oil concern. Its speed of 84.07 m.p.h. for 12 days is really creditable.

**International Class Records.**

Seven Class "A" records have changed hands during 1934. They were all beaten

*THE 1934 RECORD BREAKING SEASON—continued.*

by the Napier-Railton on its trip to Paris last April, and this gigantic car now holds 18 out of the 27 records in its class. Some of the remaining 9 would doubtless have fallen had the car not crashed off the track while being driven by F. W. Dixon.

*The new type Austin Seven broke the acceleration records in Class H, but lost them later to the M.G. Midget.*

In Class " B " there was rivalry between Eyston's Panhard et Levassor and Jenkin's Pierce-Arrow. In May, Eyston took five of Jenkin's records at a speed of 126 m.p.h., or so at Montlhéry, but in the end Jenkins got them back again at 132 m.p.h. Now Eyston is planning a trip to Utah with a special car with which to recapture them, and a lot more besides.

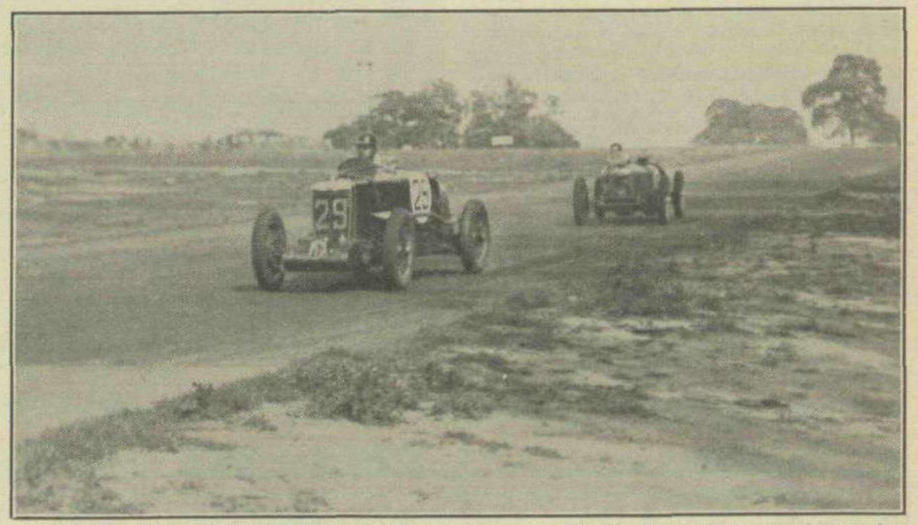
The amazing acceleration and maximum speed records of the Mercédès-Benz dominate the history of Class " C " last season. The standing-start kilometre record was increased by 13 m.p.h., and the flying kilometre by 50 m.p.h.! Similarly with the mile. With a 4-litre engine the present speeds are literally epoch-making. Caracciola has his eye on a good many records in his class, and may even have gathered some more before these words appear in print.

On the other hand there are several records which have stood the test of time since 1929, notably the late Borzacchini's 152.90 m.p.h. for 10 miles made with the 16-cylinder Maserati at Cremona, and Kaye Don's 100-kilometres and 100-miles at 124 m.p.h. with the Sunbeam " Tiger." The latter's records will be the next to fall, one would imagine, for races have been won at the Avus for the last two years at nearly 130 m.p.h. over a much greater distance. And the Mercédès-Benz can lap much faster than that.

The rest of the records beaten in this Class were the work of Delahaye and Austin, both of which cars have been commented on as World's Record breakers.

Only 9 records have fallen in Class " D," up to 3-litres. The flying kilometre and mile records went to Whitney Straight's Maserati, when he recorded 136 m.p.h. in a difficult mean-speed attempt at Brooklands. The rest were long-distance records made by the Yacco Citroen at Montlhéry, including the 24-hours at 98.16 m.p.h., a very fine effort.

The successful cars in Class " E " have been the Derby Special, the E.R.A., the Hotchkiss, and the Citroen-Yacco. Mrs. Stewart has carried out her annual improvement on the short-distance records with flying start, and the kilometre and mile now stand at the incredible pace of 147.79 m.p.h. It must be remembered that the car has a capacity of only 1,673. 1c.c. The E.R.A. raised the standing kilometre figure to 89.73 m.p.h., from 83.44 m.p.h., and for a time this stood as a World's Record, until the Auto-Union came along with its 101 m.p.h. The 2-litre 4-cylinder Hotchkiss gave a very fine performance in averaging 95.36 m.p.h. for 48 hours. Eyston and Denly took it in turns to drive, and broke a round dozen records in that time. The 4-cylinder Citroen " Rosalie VII " averaged close on 70 m.p.h. for 6 days and collected five records en route.



*W. G. Everitt's " Q " type M.G. Midget, here seen at Donington, set up new figures for the Standing Start Kilometre and Mile Records in Class H.*

Bugatti, Riley and E.R.A. scored six, three and two records respectively in Class " F." Pierre Veyron averaged 112.98 m.p.h. for 6 hours at Montlhéry, with his 8-cylinder Bugatti, his fastest record being 200 miles at 116.51 m.p.h. Eyston and Maclure on a 6-cylinder Riley took the 1,000 miles, the 2,000 kilometres and the 12 hours at 100-102 m.p.h., and finally the 1½-litre E.R.A. driven by Raymond Mays demonstrated the wonderful acceleration possessed by all the models of this marque in taking the standing-start kilometre and mile records.

The name E.R.A. was again to the fore in Class " G " for cars up to 1,100 c.c. capacity. H. W. Cook was the driver this time, and the two acceleration records fell before his onslaught at Brooklands. The remaining 19 records broken in 1934 all went to M.G. Magnettes, driven by G. E. T. Eyston and R. T. Horton, respectively. The latter broke 7 records, but had to yield them all to Eyston and Cook before the season was out. Eyston had a most successful run at Montlhéry in October. He broke 12 records, including such widely spaced figures as the flying kilometre and the one hour. After covering 10 miles at an average of 128.53 m.p.h. he eased up, and the remaining records were taken at about 120 m.p.h. The car was the " Humburg " Magnette which was comfortably leading in the " 500 " at the time of its crash.

Class " H " brings us to the eternal struggle between M.G. and Austin for the possession of records. Readers will remember that the Abingdon factory had made a clean sweep of all the records in the class by the end of 1933. The first Class " H " records to fall in 1934 were by another M.G. driver, R. T. Horton, who took three of them at Brooklands, including the coveted one hour at 111.74 m.p.h. Then, on the first day of August, W. G. Everitt gave the new " Q " Midget a trial at Brooklands, and beat Hall's existing standing-start kilometre and mile records. Yet another M.G. driver took up the tale when Herkuleyns, the French

*THE 1934 RECORD BREAKING SEASON—continued.*

driver, beat the standing kilometre at Montlhéry, also with a "Q" type Midget.

The first Austin challenge came, oddly enough, from a German driver, Burggaller. This well-known driver had been using a new type Austin Seven, similar to that handled by L. P. Driscoll at home, in several big hill-climbs. Now he took the car to Gyon for the record meeting, and he was successful in raising the standing kilometre and mile records once more. Exactly one week later, however, Everitt was out again with the "Q" type Midget and he raised the records to their final figures of 75.41 and 85.59 m.p.h. respectively. And so the Class remains an unbroken list of M.G. successes for the second year, a unique performance of which Abingdon may well be proud.

Class I, for cars up to 500 c.c., is the only one which remains absolutely unchanged from last year. On the other hand there has been intense activity in Class "J" for cars up to 350 c.c. The machine responsible for all the records started the season with the name of Gush Special, later being called the Vitesse Special, and finally the Vitesse. This little 348 c.c. car was a constant visitor to the track at Weybridge, and in all collected 31 records, many of which, of course, were "repeats."

## HERE'S LUCK TO "BLUE BIRD"

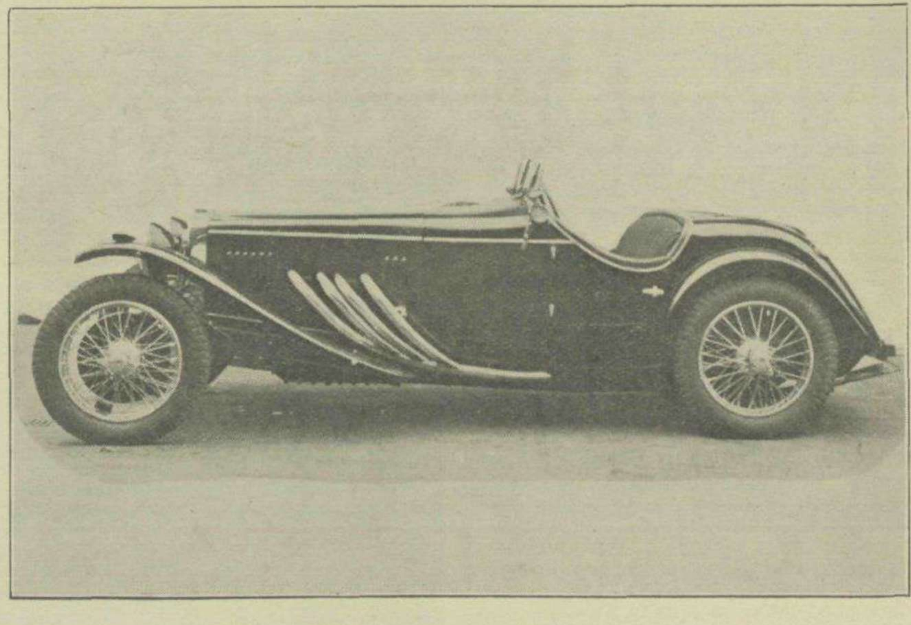
On the 19th of this month Sir Malcolm Campbell is due to sail for the U.S.A., having carefully stowed "Blue Bird" in the hold of the transatlantic liner. A month later he will, with the kind cooperation of suitable tides and sand-condition of Daytona Beach, make an attempt to improve on his existing world's flying start mile and kilometre records of some 272 m.p.h.

The new *carrosserie* of his gigantic car is now almost complete, and certainly the whole outfit bears the stamp of Sir Malcolm's long experience of driving at such a colossal speed. We wish him the very best of luck in his endeavour, and hope that he will succeed in attaining his long-awaited goal of 300 m.p.h.

## THE PROBLEM OF CYLINDER WEAR.

It is a commonplace that the life of an internal combustion engine can be made or marred during the vital period of running-in. But keeping down the engine speed for the first thousand miles, beneficial though it is, can be made to preserve the cylinder walls and working surfaces still more effectively if the lubricating oil contains colloidal graphite.

Just why this should be so is explained with great lucidity by Dr. A. H. Stuart in a little booklet called "The Running-In of Internal Combustion Engines," and issued by Messrs. E. G. Acheson, Ltd., of Thames House, Millbank, London, S.W. 1. The reader is taken safely through the most intricate paths of lubrication theory and practice, and no one can fail to glean useful information from a perusal of the text and accompanying illustrations. Although the primary purpose is, of course, to point out the value of a colloidal graphite running-in compound, the whole process of lubrication is fully explained. Definitely a booklet to study.



*A GENUINE THOROUGHBRED.—The new Shelsley model Frazer Nash ranks as one of the finest sports cars in the world. In performance it lives up to the qualities suggested by its magnificent lines. On the mechanical side, twin superchargers are an unusual feature.*

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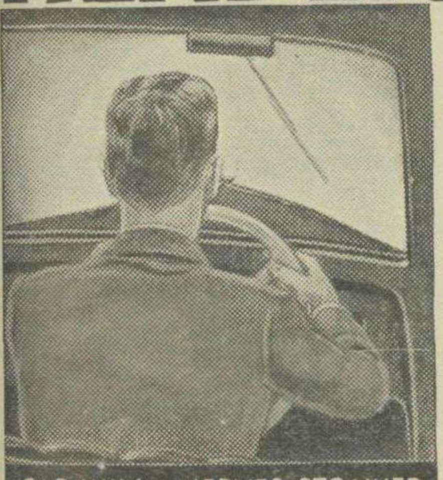
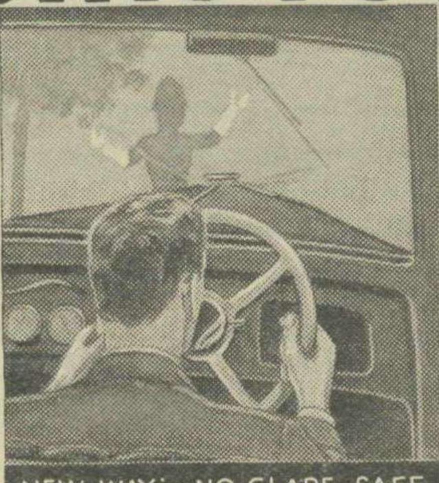
# NOW you can have Penetrating Vision with

# HEADLIGHTS FULL ON IN FOG



OLD WAY:—NERVES STRAINED BLINDED BY "BACK-GLARE"



NEW WAY:—NO GLARE. SAFE VISION. FOG TERROR ENDED

We have pleasure in announcing one of the greatest scientific discoveries of interest to motorists—a specially treated glass which definitely projects light through fog and mist without back-glare. It must not be confused in any way with amber discs or suchlike fog equipment now on the market. It ends once and for all the terror, the slow speeds and the strain of driving in fog and mist.

## *Discovered by eminent British Doctor of Science now engaged on Government work*

it has been perfected and tested under all conditions, both natural and artificial. Now this remarkable glass is placed within the reach of all motorists under the trade name of "Nebulite." Claim is not made that it will "Pierce a hole through fog," making a tunnel yards long, but it is claimed that "Nebulite" projects more light through fog and mist without back-glare. Last winter "Nebulite" underwent exhaustive tests in the hands of the leading Motoring Journals and extracts from their reports may be seen on the right.

## *Made by Pilkington Bros. the leading Glass Experts*

to whom praise must go for the practical application of many of the exacting demands of the technical formula. If you will post the form on the right we will gladly send you illustrated literature, test reports, and spectrograph photographs, which explain in non-technical language the function of this wonderful "Nebulite" Fog Filter Glass that has ended the great bugbear and danger of winter motoring.

## *Available in all Standard Sizes to fit existing lamps*

The fitting of "Nebulite" Fog Filter Glasses to existing lamps is a simple matter. They are made in all sizes to fit Standard headlamps. Full list of sizes will be sent with literature in return for coupon.

## *Definitely Anti-Dazzle and better "Contrast" on clear nights*

The main object in producing "Nebulite" Fog Filter Glass was to combat fog—that is achieved, but under test on clear nights it was found to have many incidental advantages. Although the first impression is that illumination is not so good as with ordinary glass, actually it has proved to be greater and more natural especially on black asphalt roads. It does not give a searchlight effect and is definitely anti-dazzle. All this is fully explained in the literature gladly sent free on request.

## SPECIAL
## FREE OFFER!

**Arrangements have been concluded that will enable all motorists to judge the value of "Nebulite" Fog Filter Glasses on their own cars without risking a penny. Additionally we are including, free of charge with all first despatches of "Nebulite", a special attachment for cutting out backglare from side-lights during foggy weather whilst keeping within the bounds of the Road Traffic Act. These offers are temporary; early application is urged.**

***N.B.—Chauffeurs and transport drivers are requested to obtain particulars on behalf of their employers.***

## *This Generation has seen*

GLASS that admits the sun
GLASS that defies the heat
GLASS that withstands blows

## *At last comes . . . . . .*

## GLASS THAT CONQUERS FOG

## *What the Press says:—*

**"THE AUTOCAR," DECEMBER 15, 1933.**
". . . a pair of headlamp glasses have now been in use by a representative of 'The Autocar' for some time. Been found to give . . . penetration of fog and absence of back-glare."

**"THE AUTOCAR," MARCH 9, 1934.**
"One very misty evening I could not read the posters on the hoarding by the white light, but with the 'Nebulite,' although it cast no visible rays, I read the lettering quite well."

**"THE MOTOR," NOVEMBER 28, 1933.**
"Tests which we have carried out with this 'Nebulite' glass show it to be decidely effective under foggy conditions, the extra range of vision and absence of glare . . . most noticeable . . . Under ordinary clear weather, night driving conditions, the filtered light is definitely restful."

**"THE MORRIS OWNER," APRIL, 1934.**
". . . we can definitely say that we found it of material help in foggy weather."

**"THE WORLD'S CARRIERS," JANUARY 15, 1934.**
". . . a glass filter was then produced . . . and tested on the road, when it was found to produce all the results that had been hoped for and expected."

**and "THE LANCET," FEBRUARY 17.**
"This glass certainly merits trial."

## POST NOW

**To Nebulite Retail Company,**
**60, Strand, London, W.C. 2.**

Please forward me by return, free of charge and without obligation, full particulars, reports and spectrograph photographs concerning "Nebulite" Fog Filter Glass, together with details of your introductory offer.

Name ..............................................

Address ..............................................

..............................................

***If you care to enclose 1½d. stamp to cover postage, please do so, but this is optional.***

*Motor Sport—1/35.*

# ITEMS OF INTEREST

### A LINK BETWEEN FRIENDS.

With the idea of keeping in touch with their many friends in the automobile trade, Messrs. Alexander Duckham & Co., Ltd., issue regularly a most interesting little magazine called "Links." The current number contains a fully illustrated description of a visit to the Ford Works at Dagenham; an informative article on "Wear"; a treatise on the causes and cure of skin diseases which are prevalent among factory users of lubricating oil; a well illustrated article on motor-racing, flying and motor-boats; a short account of the different types of political rule now in force all over the world; and last, but by no means least, a résumé of the history of the firm of Alexander Duckham & Co., Ltd., with particular reference to the Chairman and Managing Director.

It is interesting to note that Mr. Duckham attributes his success in the scientific study and production of lubricating oil to the encouragement of his godfather, Sir Alfred Yarrow, the famous marine engineer and philanthropist.

"Links" may be obtained post free from Duckham House, 16, Cannon Street, London, E.C. 4.

### 'WARE FROST !

From now until the end of March we enter on the most arduous period of Britain's winter. Severe frost may be expected at any time, and it is most advisable to use some sort of anti-freeze mixture in your radiator.

A new preparation of this sort called "Voco Anti-Freeze" has just been introduced by the Vacuum Oil Co., Ltd., makers of the famous "Mobiloil" lubricating oils. Pink in colour, "Voco" has to be mixed with a given quantity of water, and the mixture can be left in the radiator for the whole winter. Its remarkable qualities are that "Voco" does not smell, it is clean, it is not inflammable, and it will not evaporate. It is sold in two sizes, No. 1, 8s. 6d.; No. 2, 15s.

### THE EVER-READY SELLING FORTNIGHT.

For the last six years the Ever Ready Co. (Great Britain), Ltd., have run an annual "Selling Fortnight," which was this year the subject of a prosecution in the Halifax Borough Court.

Mr. A. H. Sheppard, a director, was charged with unlawfully aiding and abetting the publication of a scheme for the sale of chances in a lottery, contrary to Section 41 of the Lotteries Act, 1832. Mr. Barratt, prosecuting, referred to a certain advertisement which appeared on October 1st, announcing that if anyone who was purchasing Every Ready products was given by the firm's representative a free voucher, one of 500 which were being distributed, that voucher could be exchanged for £1 worth of the firm's products.

Mr. Maude, for the defence, said that for six years the police, having seen nothing wicked in the scheme, had taken no action whatever. It could be imagined that the directors of the company who, like the Bench, were people of good sense, were absolutely astonished when, after so many years, it was considered in Halifax that there had been an infringement of the Lottery Acts. Under the Act any person convicted was regarded as "a rogue and a vagabond." It was one of those ludicrous things dating back to 1832, that were absolutely fantastic in the light of the present day. However the firm had decided that nothing like this should occur again.

The Bench retired to consider their decision. After a short absence they returned, and the Chairman said: "We have decided to dismiss the case on payment of the costs—£2 10s. 9d."

### THE CARRYCURRENT CLUB.

The electrical equipment of a motor car still remains the most mysterious part to the average motorist. He may be quite good mechanically, but if the dynamo gives trouble, or the lighting system gets out of order, he generally takes the next train home.

Messrs. Ripaults, Ltd., the well-known manufacturers, have conceived the excellent idea of producing a periodical containing useful notes and articles on electrical equipment. An important feature is to be the Correspondence Section, where "Club" members will be able to pass on to their fellow motorists the causes and cures of some of their troubles in this direction.

The "Carrycurrent Club Chronicle" can be obtained, post free, from Ripaults, Ltd., King's Road, London, N.W. 1.

### FRAZER NASH CLUB AWARDS.

The Frazer Nash Car Club has an impressive array of awards, held for one year by members who are most successful in different branches of motor sport. For 1934 they have been awarded to the following :—

**The Aldington Cup** (Reliability Trials).—Mrs. Arline Needham; runner-up, J. Tweedale.

**The Botterell Trophy** (Veteran Nashes).—H. Patrick Holden; runner-up, Howard P. Dawbarn.

**The Mitchell-Thomson Cup** (Teams).—Stanley Cup Team (D. Aldington, G. Casswell, R. H. Eccles, D. M. Dent, R. G. Percival).

**The Selsdon Bowl** (All Round Performance).—D. G. Hopkins and Hon. P. Mitchell-Thomson; runner-up, Alan S. L. Whiddington.

**The Twentyman Cup** (Speed Events).—G. Casswell; runner-up, Roy H. Eccles.

### FÊTING THE GREAT.

One of those charming little ceremonies, at which the French are so adept, took place recently in Paris at the Ecu de France. Robert Sénéchal and Jean Colin were the organisers, and their purpose was to celebrate the nomination to the rank of *Chevalier dans l'ordre de la Légion d'honneur* of those famous sportsmen, Réne Thomas and Michel Doré.

The chair was taken by M. Louis Delage, under whose colours Thomas raced so successfully for many years. Many well-known figures in French motoring and aviation circles were present, and a pleasant air of informality characterised the proceedings. In his speech, M. Delage gave a brief outline of Réne Thomas's achievements on land and Michel Doré's in the air, and his sentiments of praise and admiration for both men were echoed by the general company.

### A SPORTSMAN OF PARTS.

All who have remarked the rapid strides in competition made by Singers during the last two years will be familiar with the name of J. R. H. Baker, "Roddy" to his friends. A regularly successful competitor in reliability trials, Baker was also one of the first to take advantage of Donington Park as a genuine, if miniature, road-circuit. His biggest race has been Le Mans, where he was partnered by Black.

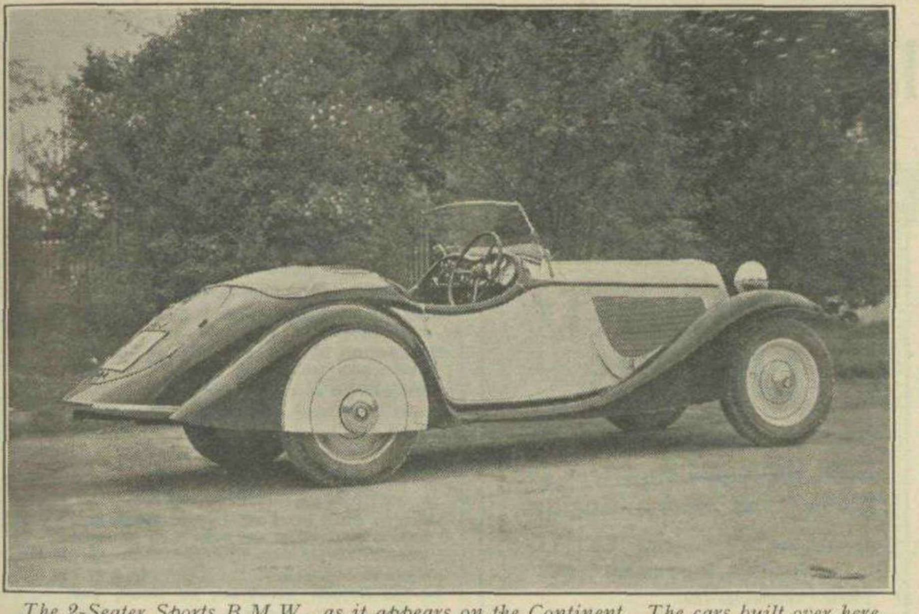
We are indebted to the *Sunbac News*, published by the Sutton Coldfield and N. Birmingham M.C., for some interesting details of Baker's activities in other spheres of speed. For seven years he served with the 605 County of Warwick Bomber Squadron, during which period they won the Esher Trophy four times and were runners-up on two other occasions. In 1931 he had the honour to attend the King's Levee, but that same year saw his flying days nearly come to an untimely end. In an appalling crash Baker was severely injured, while the unfortunate pilot was killed.

But the lure of speed in some form or other is not easily eradicated from a man, and Baker then took up motoring seriously —and successfully, we might add. His secondary hobby, incidentally, is the breeding and coursing of greyhounds. More speed !

### CAR DIAGNOSIS.

A most remarkable machine has been constructed at Morgans, the Automobile Engineers and Turners of 171, Harrow Road, London. The aim of the designers has been to eliminate the waste of time and the inaccuracy of testing and tuning on the road. For a standard charge of 10s. 6d. you can have your car tested as to its brake horse-power running, temperature, ignition timing, carburetter adjustment, propeller shaft whip, brake-efficiency, back axle adjustment and wear, fuel consumption, wheel-balance, and its most appropriate fuel.

From the racing point of view it will be seen that the machine has distinct possibilities. Various fuels and mixtures can be tried while the car is still running, switching from one to the other and checking the power output at the same time. In the same way gear ratios, ignition timing, wheel sizes and tyre pressures can all be determined to a nicety, reducing the actual track-testing to a minimum. Not the least useful of the machine's functions is in tracing those mysterious sounds caused by wear in one part or another of a car's anatomy.



*The 2-Seater Sports B.M.W., as it appears on the Continent. The cars built over here will have English coach-work and wire wheels.*

# THE FRAZER NASH-B.M.W.

### BRINGING THE CONTINENT TO ENGLAND.

ANYONE who knows Mr. H. J. Aldington, the genial managing director of the Frazer Nash concern, will not need to be told that "Aldie" has few illusions about sports car performance, road holding and the like, so that when we were informed that Messrs. A.F.N. had decided to manufacture the well-known German small car, the B.M.W., we realised that this must indeed be "some" car. Mr. Aldington was very favourably impressed with their performance in the Alpine Trial two years ago, and after long consultations with German technicians and personal trials on the continent, he made up his mind that the cars definitely had a future in England. In the early stages the chassis parts will be manufactured in Germany and assembled over here, and will, of course, be fitted with English bodywork; but by the end of six months Messrs. A.F.N. should be in a position to manufacture every part of the cars in this country.

The chassis has two tubular side-members, steeply upswept at the back, and the back axle is carried at each side on a normal type of underslung semi-elliptic spring. In the centre of the frame the chassis members are parallel and at floor level, but converge in front of the engine. Front axle proper there is none, but the side members are joined to a pressing which carries a single transverse laminated spring. The front wheels are independently sprung, each of the two king pins being pivoted on the extremities of the spring and on radius arms carried underneath it, excessive movement being damped by built-in shock absorbers. The brakes are operated by cased cables.

The engine is a neat-looking overhead valve unit of 1½ litre capacity, giving a sustained 40 h.p. at 3,800 r.p.m., with three carburettors and coil ignition. The gear box, which is built in unit with the engine, has four speeds and reverse, with synchro-mesh on third and top. The final drive is by spiral bevel, the reduction, and hence the top gear being 4·38 to 1.

The two-seater body standardised in Germany is built on rakish lines, with flared wings and bonnets sides ventilated by large perforated panels. In this country the car will be fitted with English coachwork, a different radiator, wire wheels and right-hand steering; and it is worth mentioning that it has been found possible to fit really high-geared steering without impairing the lightness which was part of the charm of the German version of the B.M.W.

The all-out speed with the B.M.W. sports engine is said to be over 75 m.p.h., and since the complete car weighs only 14½ cwt. the acceleration should be equally striking. The chassis is amply big enough to take the 70 b.h.p. six-cylinder Frazer Nash engine, in which case a further improvement in performance may be anticipated, and a two-litre engine may also be produced for it later on.

We arrived at the works for a short trial run on a cold rainy night, and had already noted on the way down the slippery condition of the tramlines on the Isleworth road. These conditions in no way deterred Mr. Aldington, and in a short time the demonstration car was brought out and we conducted a series of braking tests on these same tramlines at 45 to 50 m.p.h., and however hard the brakes were applied the remarkable car showed no inclination to deviate from a straight line. Sharp corners could be negotiated without any roll or skidding, yet the suspension is so supple that the car can be rocked by hand when one is standing alongside it, like an old-style American saloon. The run was too short to notice much else, but we could not fail to remark on the lively acceleration and the straight-through gear change; but after what we had experienced we have no hesitation in supporting Mr. Aldington's contention that the B.M.W. is a car out of the ordinary.

The sports chassis will be priced in England at £330, or exactly the same as it does in Germany, and the two-seater sports car complete costs from £425 to £450, according to equipment. The touring chassis, which has a two-carburettor engine, will also be sold in this country, costing £275, and will be fitted with a complete range of bodies, one of the most practical being the 4-seater cabriolet at £425.

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### FIAT

1930 Type 514. 10-30 Fiat open 2-seater. Excellent condition. Late property racing driver. £36. Biggs, 21, St. Andrews Road Enfield, Middx. Enf. 0643.

### FRAZER NASH

FRAZER NASH Cars, Falcon Works, London Road, Isleworth (Hounslow 3172) have for disposal a number of reconditioned cars.—Full particulars on application.

### LAGONDA

1930 (May) LAGONDA 2-Litre Speed Model 4-seater. Low chassis, cycle-type wings, exceptionally clean condition throughout. Very fine performance. £165. No dealers. No offers. Wood, "Daytona," Bury St. Edmunds.

### M.G. MIDGET

1934 M.G.P. Type Midget 2-seater. Black. Excellent condition. Many extras. Specially tuned. Good acceleration. £168.

1934 M.G.P. Type Midget 4-seater. Duo Blue. Excellent condition. Small mileage. One owner. £185. The Bellevue Garage and Service Stations, Ltd., 18 and 19, Bellevue Road, Wandsworth Common. 'Phone Bat. 0479.

### M.G. MAGNETTE

1933 RACING MODEL, fitted with special Marshall supercharger and spare set of bevels for axle. Chassis fitted on unburstable tank, holding 27 gallons, designed to prevent skidding and to improve weight distribution. £550. Car Mart, Ltd., 146, Park Lane, W. 1. Grosvenor 3434.

### RILEY

SPECIAL RILEY. Ready for season's racing. Big crank engine, guaranteed 105 m.p.h. Full touring equipment available. Many spares, 3 axle ratios. £150. Apply Box A.53, c/o MOTOR SPORT.

### SINGER

1934 COMPETITION 9-h.p. 4-seater Sports Singer. Special Alfa-blue, aluminium wheels, two spares (competition tyres), aero screens, badge bar, 4 gns Trippe, stone guards all lamps. Tuned and equipped for competition. Many firsts. This car is in exceptional condition; maintenance by Singer Specialists since new. Reasonable offers invited. 17, Sheen Lane, S.W. 14. 3303 Prospect.

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The Paddock, Brooklands Track.
*'Phone: Weybridge 489.*

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Exhaustive testing and competition on the Continent have proved beyond question the superiority of the Frazer Nash — B.M.W., and its overwhelming success under conditions where other cars fail.

While it is conventional in so far as its transmission system, it is markedly in advance of other cars where chassis design and suspension are concerned.

" The Autocar," after prolonged tests of both open and closed models, said they " showed remarkable stability with an entire absence of side-sway even under violent cornering, and *extra-ordinary safety on wet treacherous surfaces*," adding, " it is a car with a remarkable capacity for making a very fine average . . . because of the acceleration and cornering abilities. The comfort of riding is exceptional . . . and *really bad surfaces can be taken fast without shock in an extraordinary manner*."

It is, in our opinion, *without equal* where other cars of its type and its class are concerned. The engine is absolutely quiet, extremely smooth and flexible ; it has a refined, yet lively, top gear performance ; perfect steering (high-geared and positive but very light), while the car definitely possesses ' large car ' comfort, an attribute which other light cars sadly lack.

The 1½-litre 6-cylinder saloon costs £350, completely equipped. The Frazer Nash—B.M.W. is a unique proposition—we believe if you try the car you will agree with us that it is the finest light car on the market, and it is *worth* trying if only to realise its extraordinary safety and superlative, even uncanny, road-holding qualities.

**FRAZER NASH CARS**

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